## INSTALLATION GUIDE

## FREE STANDING PERGOLA



## Dear Customer,

Thank you for purchasing a free standing pergola from Four Seasons Outdoor Living Solutions. This installation guide will break down the assembly method into a step by step process.

Before beginning installation, make sure you read each step carefully and that you have all the necessary tools and equipment A list can be found on page 2. Also make sure that you have the correct quantities of components and hardware - A list can be found on pages $3,4 \& 5$.

TOOLS LIST:


Hammer Drill


Caulking Gun


Hammer


Skill Saw or Chop Saw


Tape Measure


Speed Square


Level


Crescent Wrench


Marker Pen

## $12 \times 12$ COMPONENT <br> CHECKLIST:




$12 \times$
Rafter End Caps

| $2 \times 3.5$ " Nut, Bolt \& Washers


## $20 \times 10$ COMPONENT

CHECKLIST:


## CONCRETE FOOTINGS

I. Set out the welded corner post bases. Base plans for each size of pergola can be found on pages 7, 8 \& 9. 20ft pergolas will have 6 post bases - set aside 2 for a later step.
2. Measure diagonally from the base plates corner to corner...then measure the opposite diagonal (Image I). Adjust the base plates so the diagonal measurements in both directions are equal, and match the dimensions shown on the base plan for your size of pergola.
3. Mark/Trace around the base plates to mark their location.

## Image I



Base Plans
$12 \times 12$ Base Plan
Part I - Setting out the post bases.
FRONT


Base Plans

## $16 \times 12$ Base Plan

Part I - Setting out the post bases.

FRONT


## Base Plans

## $20 \times 10$ Base Plan

## Part I - Setting out the post bases.

## FRONT


4. Dig a footing hole 25 " wide $\times 25$ " across $\times 25$ " deep...(check with local building Departments for frost depth requirements \& add that to your footing depth).
5. Fill with concrete and leave to set.

Note: Footings must be set before installation. The pergola must not be installed to a concrete slab alone. If installing to existing concrete slab, cut existing concrete, dig footings and fill with new concrete.

## Installation

## Part I: Installing End Caps (Rafters and Shade Slats)

I. Set up saw horses or a table.
2. Set all the 2 " $\times 5$ " rafters on the saw horses. Note: Take care when handling, being careful not to scratch the surface.
3. Locate the rafter end caps.
4. Open up a tube of caulk, run a thin bead of sealant inside the $2 \times 5$ tube on the two long sides about I/4 inch into the tube...NOT NEAR THE EDGE (Image 3).

## Image 3



Image 2

Caulk on the two long sides about $1 / 4$ inch into the tube...NOT NEAR THE EDGE.

## Part I: Installing End Caps (Rafters and Shade Slats)

5. Slide in the end cap so it is flush even with the end of the $2 \times 5$ rafter (Image 4). Repeat for the other end of the rafter.
6. Repeat for the remaining rafters and let them set and cure for a few hours.
7. While the rafters are curing: Set out the Ix3 shade slats on the saw horses or table being careful not to scratch them.

Image 4

8. Locate the plastic shade slat end caps.

For 12 ft wide pergolas: insert end caps into BOTH ends of the shade slats. (32 End Caps)

For $12 \times 16 f t$ wide pergolas: insert end caps into ONE end of the 8 ft shade slats. (32 End Caps)

For $10 \times 20 f t$ wide pergolas: insert the end caps into ONE end of the $10 f t$ shade slats. (26 End Caps)

## Part I: Installing End Caps (Rafters and Shade Slats)

9. Insert the end caps into the appropriate shade slats (see previous step for guidance). Tap the end caps into place using a hammer. (Image 5) (Image 6).

Image 5


## Image 6



## 16ft and 20ft Pergolas Only - <br> Skip to Part 2 if not applicable

II. 16 ft pergolas: IN the OPEN END of 16 shade slats....insert the silver 3" splice for $1 \times 3$ slats half way into the slat and fasten with one (I) \#10x3/4 tek on the 3 " top side (Image 7).
12. 20 ft pergolas: $\mathbb{N}$ the OPEN END of 13 slats....insert the silver 3" splice for $1 \times 3$ slats half way into the slat and fasten with one (I) \#IOx3/4 tek on the 3 " top side (Image 7).

## Image 7



16 ft pergolas: For 16 ft wide Pergolas you will have 8 pieces of 8 ft 2 "x5" beams with each beam having 2 holes pre-drilled at one end. There will also be 4 silver colored splices to join the beams together to make 4 beams 16 ft long.

20 ft pergolas: For 20 ft wide Pergolas you will have 8 pieces of $10 \mathrm{ft} 2 " \times 5$ " beams with each beam having 2 holes pre-drilled at one end. There will also be 4 silver colored splices to join the beams together to make 4 beams 20ft long.

## I6ft and 20ft Pergolas Only - <br> Skip to Part 2 if not applicable

13. Set 2 pieces of a 2 " $\times 5$ " beam on a flat smooth surface taking care not to scratch the profile. Have the pre-drilled holes at opposite ends.
14. Measure and mark the silver 16" long SPLICE at 8" (Image 8).


## Image 9



## 16ft and 20ft Pergolas Only - <br> Skip to Part 2 if not applicable

16. Slide the $16^{\prime \prime}$ SPICE into one of the beams to the center 8" mark of the splice. Using the \#I4 tek screws, Fasten through the beam into the splice on the screw pattern marks.
17. Slide the second beam over the splice and BUTT the TWO BEAMS for a TIGHT fit. Make sure both beams are STRAIGHT and the JOINT is TIGHT.

Image 10

18. Using the \#|4 tek screws, Fasten through the beam into the splice on the screw pattern marks. Fasten up through the bottom of the beams into the splice as shown in the fastening pattern (Image I0).
19. Turn the beam over and fasten the second side following the screw pattern.
20. Repeat \& complete for the other 3 sets of beams

## Part 2:Anchoring the Post

## Bases to Footings

Note: Make sure to let all new footings cure for $\mathbf{2 4 h r s}$ prior to installing the post bases.
I. Set the Welded base plates on the footings.
2. Repeat steps I \& 2 in Part I of this guide to position the post bases.
3. Set $22^{\prime \prime} \times 5$ " beams with the pre-drilled $5 / 8$ " holes across from Base $\# \mid \& \# 2$ and $\# 3 \& \# 4$ to center the holes with the post stubs as a check for the measurements (Image II).

## Image 11


4. Use the 2 rafters with pre-drilled holes to check the distance between bases \#| \& \#4 and \#2 \& \#3.

Image 12

Post 3


Base Plans

## $12 \times 12$ Base Plan

Anchoring the Post Bases to Footings
FRONT


Base Plans

## $16 \times 12$ Base Plan

Anchoring the Post Bases to Footings

FRONT


## Base Plans

## $20 \times 10$ Base Plan

Anchoring the Post Bases to Footings

## FRONT



## Part 2: Anchoring the Post Bases to Footings

4. Start with base \#I, DRILL one I/2" hole, at least 4" deep, using a masonry bit \& Hammer drill thru the base plate hole.
5. Tap in the Wedge Anchor into the hole, spin the nut down a little and hit the bolt head with hammer into the hole \& tighten the nut snug (Image I3).
6. Drill a second hole diagonally across from the first hole and repeat steps $4 \& 5$.
7. Finish the remaining holes and anchors in base \#l.
8. With \#3 base on its footing. Check the diagonal measurement is correct and repeat steps $4,5,6 \& 7$ for base \#3 (Image I4).
9. Repeat steps and measurements for bases \#2 \& \#4

Image 13


## Image 14



## Part 3: Installing the Posts \&

## Beams

I. Set a $2 " \times 5$ " rafter on the footings of \#| \& \#4. Place a level on the beam to see which footing (post 4 or post I) is lower. (Image I5).

## Image 15


2. Repeat step I with footings \#2 \& \#3. Note which is lower.
3. Now run a beam connecting the two lowest footings. Level it to find the lowest footing out of all 4. (This could be a diagonal e.g post 3 to postl) (Image I6).

Image 16


## Beams

Bases \#I \& \#2 are paired together for the double beams. Bases \#3 \& \#4 are paired together for the double beams.
4. Measure down $4-3 / 4$ " from the top of a $9 f t$ post and mark it. Set one of the $9 f t$ long 3 " $\times 3$ " posts over the LOWEST base. (In the example images this is base \#2) Set another 9ft long 3 " $\times 3$ " post over the paired mate to the LOWEST base.
5. Set a ladder by each post. 2 people lift up the 2 " $\times 5$ " beam, which has two holes $5 / 8^{\prime \prime}$ diameter drilled near each end. The holes should line up in the center of each post. The person at the LOWEST FOOTING holds the top of beam even with the top of the post. The second person levels the beam and MARKS the second post on the top side of the beam (Image I7).
Image 17

6. Cut the post at the mark made using a chop saw, skill saw or hacksaw.

## Part 3: Installing the Posts \&

## Beams

7. Measure down 4-3/4" from the TOP of the SECOND POST and mark it. Hold the posts plumb level vertically, center the BEAM 5/8" access holes to the posts. Hold the top of beam UNDER the $4-3 / 4$ " mark on BOTH POSTS... RE-CHECK beam to be LEVEL (Image I8).

Image 18

8. FASTEN through the access holes into the post using the \#I4 tek screw.
9. After the first beam is up, set the posts on the remaining 2 post bases with ladders beside them.

## Part 3: Installing the Posts \&

## Beams

10. Take a 2 " $\times 5$ " rafter with pre drilled holes, set it on the beam, level it across to the opposite post. Make sure both are plumb level vertically. The holes in the rafter should line up with the center of the posts. Mark a line above the rafter on the second post. (Image I9).

## Image 19


II. CUT the marked post at the line. Recheck level and fix the rafter to the post using \#I4 TEK screws through the pre drilled holes.
12. Repeat steps IO \& II for the second set of posts, using a second pre-drilled rafter (posts $2 \& 3$ in the example image).

## Beams

Image 20
13. Push another beam to the underside of the two rafters... RE-
CHECK beam to be LEVEL. FASTEN through the access holes into the posts using the \#14 tek screws (Image 20).
14. Push remaining beams up to underside of rafters on the inside face of the posts... Hold the posts plumb level vertically, center the BEAM 5/8" access holes to the posts..
15. FASTEN through the access holes into the post using the \#|4 tek screws (Image 2I).


Image 21


## Part 3: Setting the Posts and

## Beams

## 20ft Pergolas Only - Skip to

## Part 4 if not applicable

For $20 f t$ wide pergolas: Install the 2 remaining posts and bases by lining up the centre of the 3 " post with the central beam split point. Once lined up drill $5 / 8^{\prime \prime}$ access holes and fix to the posts. Then fix the bases to the ground using the method in part 3. Add the 3" posts and fix beams into post. Image 22.

Image 22


## Part 4: Securing Posts

I. Drill a 3.5 " hole through the post and base plate stubs.

Image 23

2. Insert a bolt, place a washer and nut on the end and tighten.
3. Repeat for all posts.

## Part 5: Installing Rafters

Image 24


Image 25


## Part 5: Installing Rafters

3. Fasten angle brackets to the beams at the other end of the rafters using the same method. Image 26.
4. Make sure all the rafters have an equal overhang over the beams.

Image 26


Part 5: Installing Rafters

Image 27


## Part 5: Installing Rafters

5. Make sure the RAFTER is STRAIGHT \& UPRIGHT. FASTEN BOTH ENDS using Two (2) \#I0×3/4 tek screws through the Angle Bracket into the Rafter over each beam. (Image 28).

Image 28

6. Fasten the pre-drilled rafters to the inside of the posts using I \#I4 TEK screw. (Image 29).

Image 29


## Part 5: Installing Rafters

7. Fasten the remaining RAFTER ANGLE BRACKETS to the DOUBLE BEAMS and to the other side of each RAFTER. Push the Rafter ANGLE BRACKET TIGHTLY against the RAFTERS \& FASTEN. (Image 30).

Image 30


## Part 6: Installing Final Endcaps

I. Install the beam end caps using the same method in part 2 (Image 36).

Image 31

2. Install post endcaps using the same method (Image 37).

Image 32


## Part 7: Installing Shadepickets

12 ft pergolas: This pergola will have $12 \mathrm{ft} \operatorname{Ix} 3$ Shade slats. At the FRONT \& BACK of the RAFTERS, MEASURE \& MARK $3^{\prime \prime}$ on the TOP SIDE of the FIRST, LAST and MIDDLE RAFTERS.

16 ft pergolas: Join two (2) Ix3 slats together on top of the rafters...fasten using one (I) \#I0×3/4" tek screw. This pergola will have $16 \mathrm{ft} I \times 3$ Shade slats. At the FRONT \& BACK of the RAFTERS, MEASURE \& MARK 3" on the TOP SIDE of the FIRST, LAST and MIDDLE RAFTERS.

20 ft pergolas: Join two (2) Ix3 slats together on top of the rafters...fasten using one (1) \#I0x3/4" tek screw. This pergola will have 20ft Ix3 Shade slats. At the FRONT \& BACK of the RAFTERS, MEASURE \& MARK 4-I/2" on the TOP SIDE of the FIRST, LAST and MIDDLE RAFTERS.
I. Take one Ix3 SHADE SLAT and set it BEHIND the FRONT MARK and place another slat IN FRONT of the BACK mark, as shown. (Image 32).

Image 33


## Part 7: Installing Shadepickets

2. Fasten using one (I) \#I0x2" Tek through the $I \times 3$ 's into every Rafter.
3. Put the remaining $I \times 3$ slats on top of the rafters pushing them against the first Ix3 slat in front. Make sure the ends are all flush with one another. (Image 34).

Image 34

4. The spacing between the shade slats is the width of 2 slats ( 6 inches). Therefore leave 2 and fasten the next shade slat to every rafter using I \#IOTEK screw. (Image 35).

## Part 7: Installing Shadepickets

Image 35

6. Remove the loose slats and repeat.
7. For the final slats, measure 6 inches from the previous slat. Position the slat and fix through (Image 36).

Image 36


