Palmetto Double Beam Freestanding Pergola with 5”x 5” Posts and ShadeFX Canopy Installation Guide

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Before You Begin Installation

Consult your local authorities for any permits required to construct the pergola.

Check with local building code officials to review any required permits or building limitations.

Read instructions thoroughly prior to assembly.

If you have questions or concerns with this product please **DO NOT** return before consulting a product specialist. Please refer all questions and concerns to our product specialist at 1-888-743-3673.

Due to the size of the parts, at least two people are required to handle, fit and secure pergola components.

Read manual first as mounting hardware varies with each application. Do not anchor to paver bricks. Foundation must be a solid surface.

Do not stand, sit, store, or hang items on the pergola.

Repair or replace broken parts immediately. Call 1-888-743-3673 for replacement parts.

At regular intervals inspect your pergola to make sure that assembly integrity has been maintained.

The installation video can be found at:
http://www.usavinyl.com/vinyl-pergola-installation.html

Tools Required for Inatallation:

1. Extension Cord
2. Hammer Drill
3. Reciprocating Saw (optional only if you are cutting down material)
4. Power Drill
5. 1" Wing Tip Drill Bit
6. Drill Bits - 5/16", 3/16"
7. Phillips Screwdriver Bit
8. Masonry Bit - 3/8"
9. Pencil
10. String Line
11. Level
12. Tape measure (min 25')
13. 2 Ladders (for at least the height of your pergola)
14. Rubber Mallet
15. Ratchet
16. Deep Socket - 1/2"
17. Standard Socket - 9/16"
18. Carpenter's Square
19. Safety Glasses

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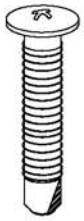
Hardware



A

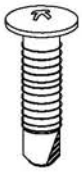
#10 x 1 1/2" Self Tapping Screw

B

3/8" x 5" Wedge Anchor (with washer and nut)

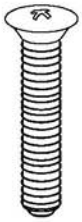
C

5/16"x 4" Lag Bolt (for connecting the 2"x8" headers to the posts)



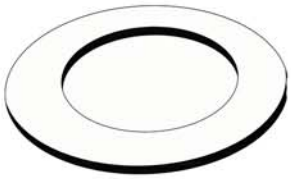
D

#10 x 1" Self Tapping Screw



F

#14 x 2" SS Screw



G

5/16" Flat Washer

E

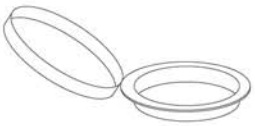
5/8" Hole Plug

I

Glue

H

1" Hole Plug



J

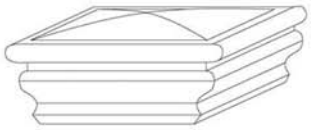
Hinged Screw Cap

* Insert screw into cap before installing

Hardware Quantities

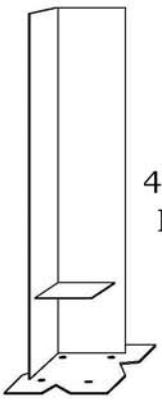
Pergola Size	A	B	C	D	E	F	G	H	I	J
12x12	36	16	16	80	20	32	16	16	1	88
14x14	38	16	16	92	22	32	16	16	1	100
16x16	42	16	16	104	26	32	16	16	1	112

Post Parts



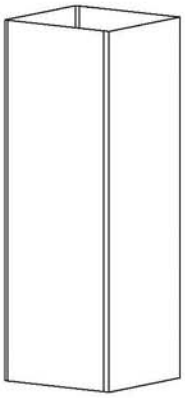
K

4” Post Cap



L

4”x4” Pergola
Post Mount



M

Vinyl Sleeve
4”x4”x24”

N

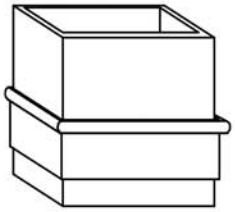
Post
Spacer

O

Vinyl Post
5”x5”

P

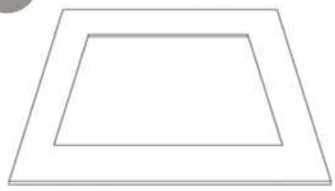
Wood Post
4”x4”



Q

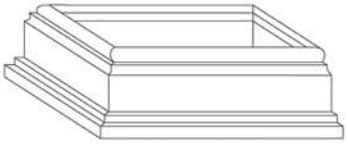
Interior Post
Adapter

R



7” Square Gasket

S



5” Post Dress Skirt

T

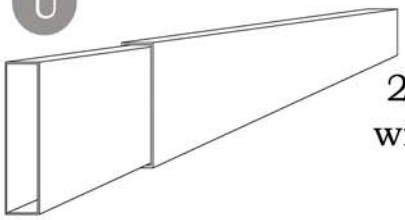
5”x4” Adapter
for 5” Post

Post Parts Quantity

Pergola Size	K	L	M	N	O	P	Q	R	S	T
12x12	4	4	4	4	4	4	4	4	8	4
14x14	4	4	4	4	4	4	4	4	8	4
16x16	4	4	4	4	4	4	4	4	8	4

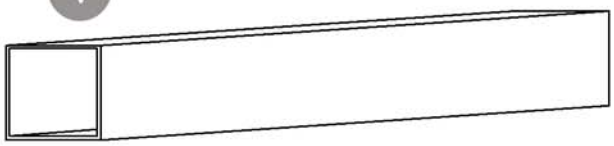
Canopy Parts

U



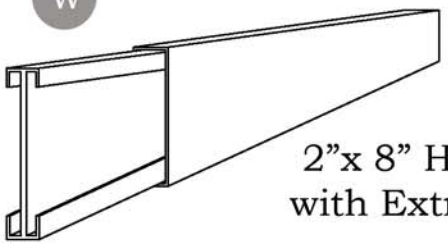
Projection Rafters
2”x 6” Hollow Vinyl Sleeve
with Extruded Alum. Insert

V



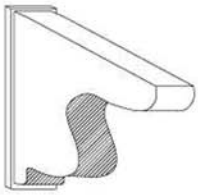
Stabalizer Bar

W



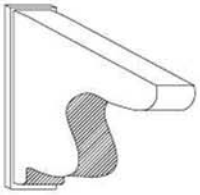
Headers
2”x 8” Hollow Vinyl Sleeve
with Extruded Alum. Insert

X



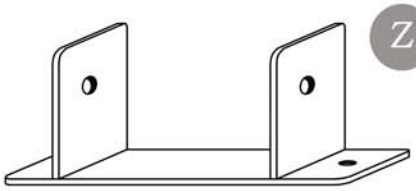
Decorative End
2”x 6”

Y



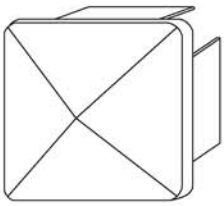
Decorative End
2”x 8”

Z



Rafter
Support Bracket

AA



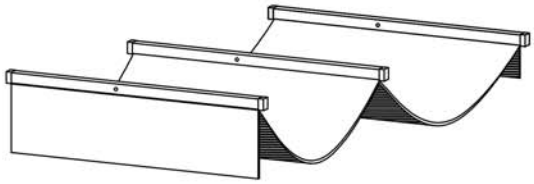
Stabalizer End
Cap

Canopy Parts Quantity

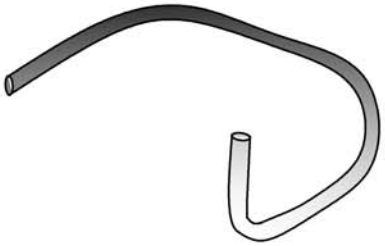
Pergola Size	U	V	W	X	Y	Z	AA		
12x12	6	2	4	12	8	12	4		
14x14	7	2	4	14	8	14	4		
16x16	8	2	4	16	8	16	4		

ShadeFX Canopy Parts

BB Canopy

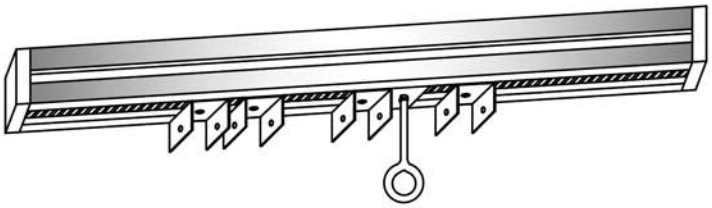


CC Metal Anchors



DD Extension Arm

EE Canopy Track



Canopy Parts Quantity

Pergola Size	BB	CC	DD	EE					
12x12	1	8	1	1					
14x14	1	8	1	1					
16x16	1	8	1	1					

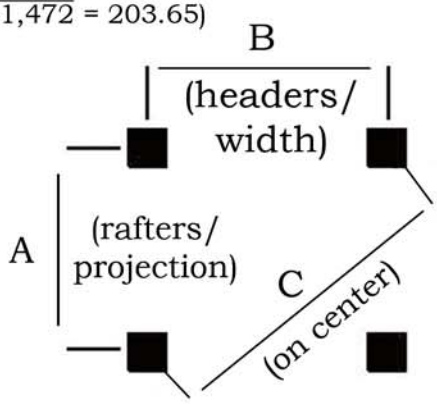
Section 1: The Posts

A. Preparation for Post Installation

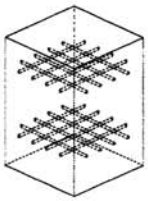
The post layout below is a suggestion for squaring your posts: other methods can be used to get the same results. The formula for squaring post is $A^2 + B^2 = C^2$

(Ex: $144^2 + 144^2 = 20{,}736$, $20{,}736 + 20{,}736 = 41{,}472$, $\sqrt{41{,}472} = 203.65$)

Pergola Size	(A) Rafter 2x6 (projection)	(B) Header 2x8 (width)	Number of posts	(C) Diagonal in inches (approx.)
12x12	144"	144"	4	203.65"
14x14	168"	168"	4	237.63"
16x16	192"	192"	4	271.53"



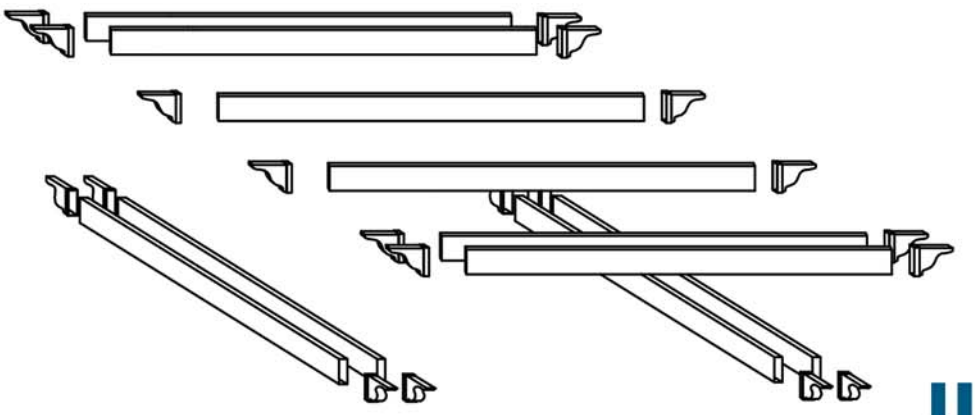
CHOOSE CONCRETE MASS FROM CHART BELOW BASED ON WIND SPEED :



Wind Speed	Mass cu ft	Depth	Length & Width
140MPH	7.2	2'	1'-10.75" SQUARE
		2'-6"	1'-8.25" SQUARE
		3'	1'-6.5" SQUARE
120MPH	5	2'	1'-7" SQUARE
		2'-6"	1'-5" SQUARE
		3'	1'-3.5" SQUARE
100MPH	3.6	2'	1'-4" SQUARE
		2'-6"	1'-2.5" SQUARE
		3'	1'-1.25" SQUARE
80MPH	2.5	2'	1'-1.5" SQUARE
		2'-6"	1'-0" SQUARE
		3'	11" SQUARE

CONCRETE SHALL BE A MINIMUM OF 3000PSI COMPRESSIVE STRENGTH WITH 2 MATS OF GRADE 60, #4 REINFORCING STEEL, 6" CENTER TO CENTER, E-W

GENERALLY SYSTEM MAY BE MOUNTED ON AN EXISTING CONCRETE SLAB, HAVE SLAB EVALUATED FOR STRUCTURAL INTEGRITY.



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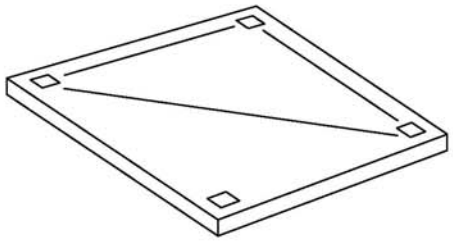
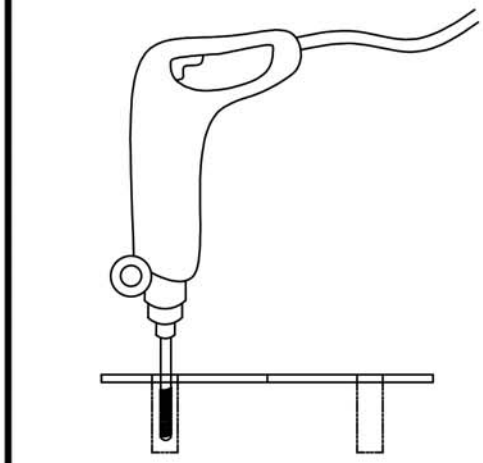
Post Set Up

1



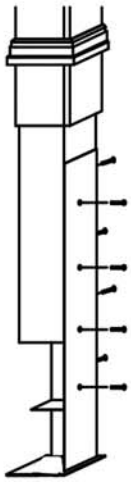
Lay out and mark the location of the posts according to the pergola size.

2



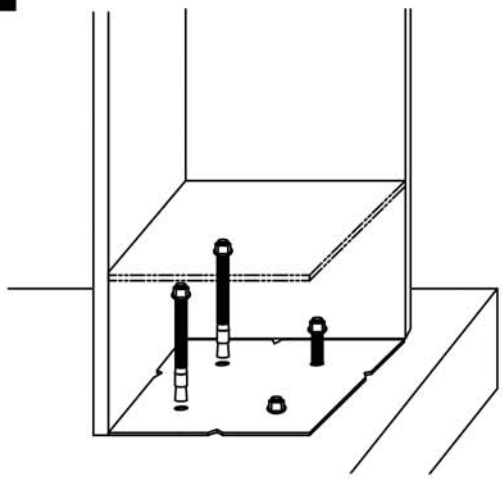
Place, square and trace each concrete post mount. (L) Pre-drill concrete mount holes with hammer drill at 4 1/2" depth with 3/8" masonary bit.
Do not rush.

3



Line up the wood post with the concrete post mount (L) and pre-drill the holes of the concrete mount into the wood. Install the #14 x 2" (F) wood screws into the pre-drilled holes.

4



Place wedge anchors (B) into each hole and tap into concrete leaving 1" above the concrete. Place concrete post mount (L) over the installed anchors and install washer and nut to each anchor. Level and tighten with 9/16" socket.
Do not over tighten.

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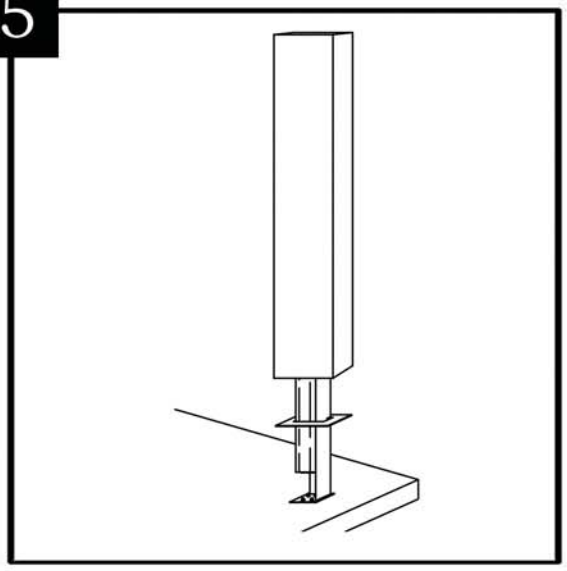
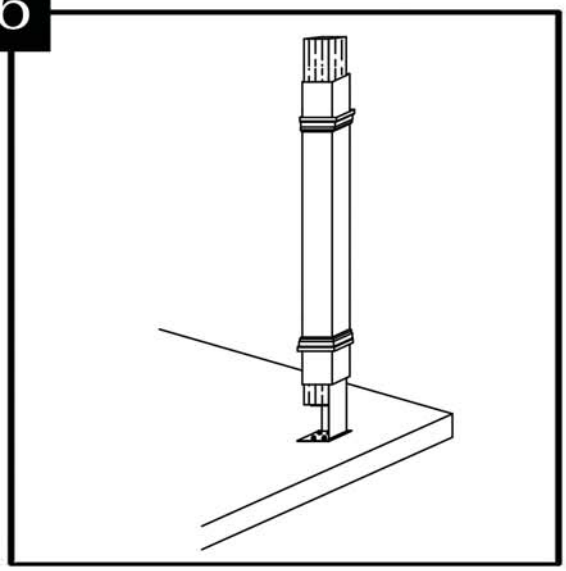
Section 2: Vinyl Sleeve Installation

5



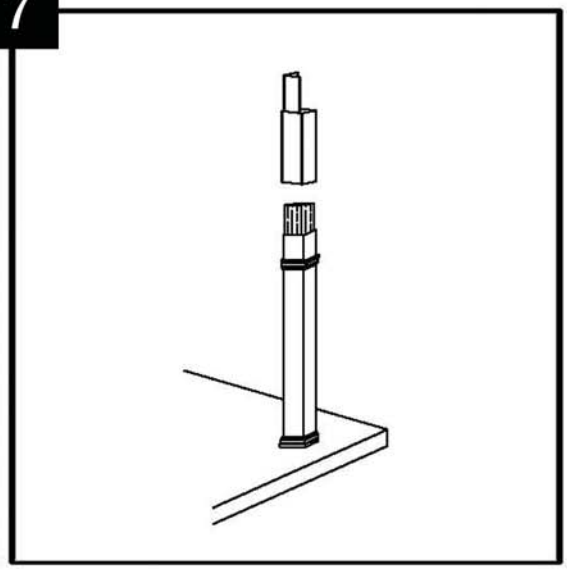
Slide the interior post adapter (Q) over the 4"x4" wood post (P) and fasten with #10 x 1" self-tapping screws.(D) Slide the 5" post (O) over the wood and adapter.

6



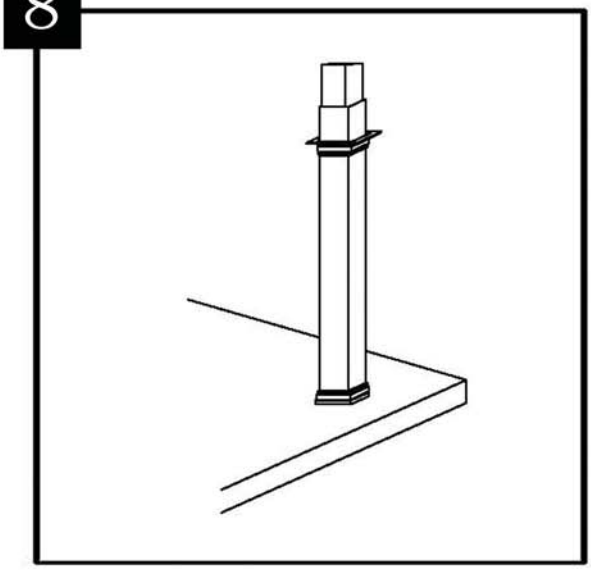
Take 2 skirts (S) and slide them over the post sleeve. The lower skirt will be upright and the upper skirt will be upside down.

7



Slide the 4x4x24 sleeve (M) and spacer (N) together (spacer between the wood and vinyl post) over the remaining portion of the wood post. Hammer down post sleeve and spacer until 18" is above the post.

8



Slide the 5" to 4" adapter (T) over the 4" post sleeve and spacer into the 5" sleeve. Slide the 7x7" gasket (R) over the 4" post and rest it on top of the sleeve. Secure the skirts to the post with #10 x 1 1/2" screws(A) and hinged screw caps. (J)

***Note** - The 4" x 4" wood post will need to be cut down according to the ground level it is installed on. Make sure to leave at least 18" above the 7" gasket or wait until step 18 to cut down.

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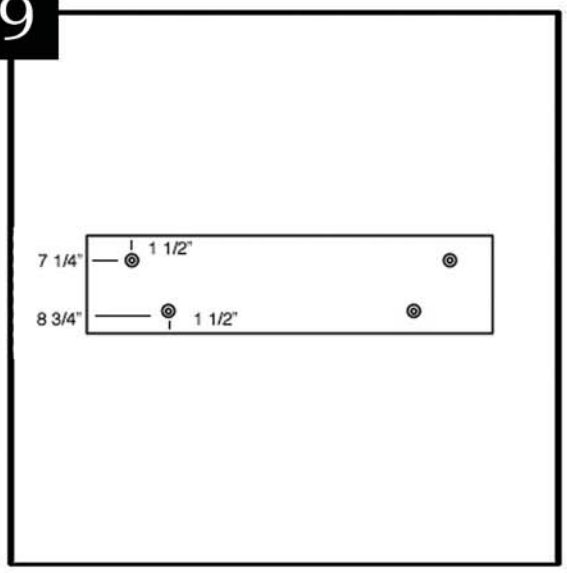
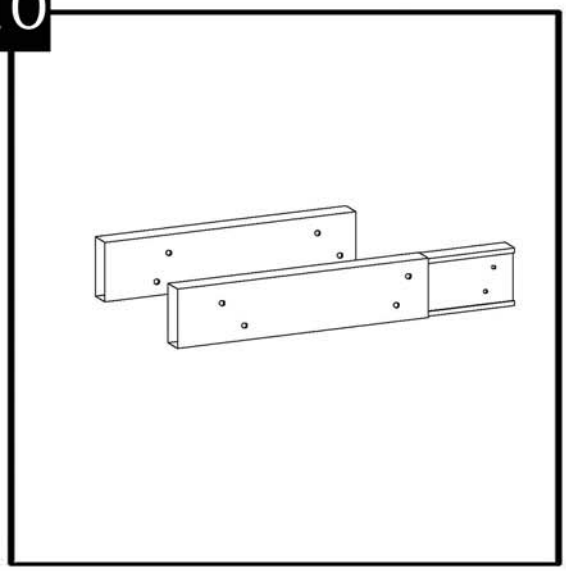
Section 3: Header Prep & Installation

9



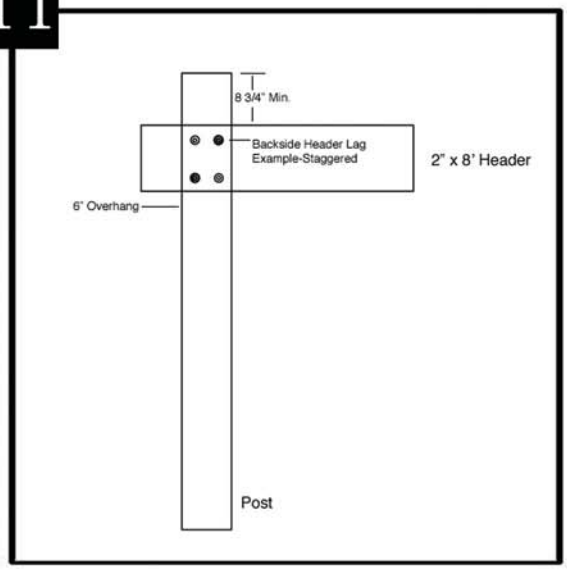
Mark the holes for the lag bolts on the 2" x 8" header.(W) Do this on both the left and right side.

10



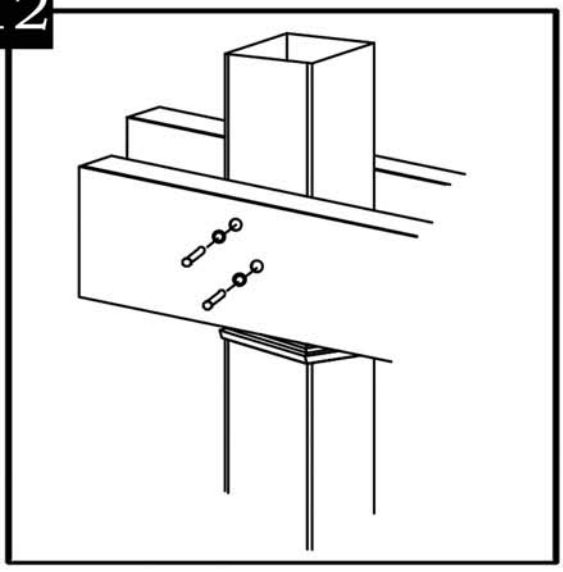
Slide aluminum out of the way. Pre drill each mark through the 1st layer of the header with a 1" wing-tip bit. Slide aluminum back in place and use the 1" hole as a guide to drill through aluminum and backside of header with a 5/16" drill bit.

11



Position header next to the post on the width length. Make sure there is at least 6" of overhang from the end of the header to the 4" post sleeve. Use a 3/16" bit to drill through the previously drilled holes of the header into the 4" post and wood.

12



Install 5/16" x 4" lag bolts (C) and washers (G) through the vinyl and aluminum into the wood post. Tighten with 1/2" socket.

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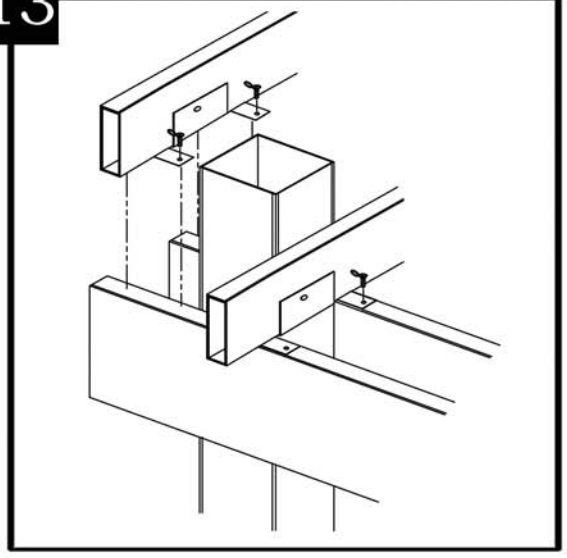
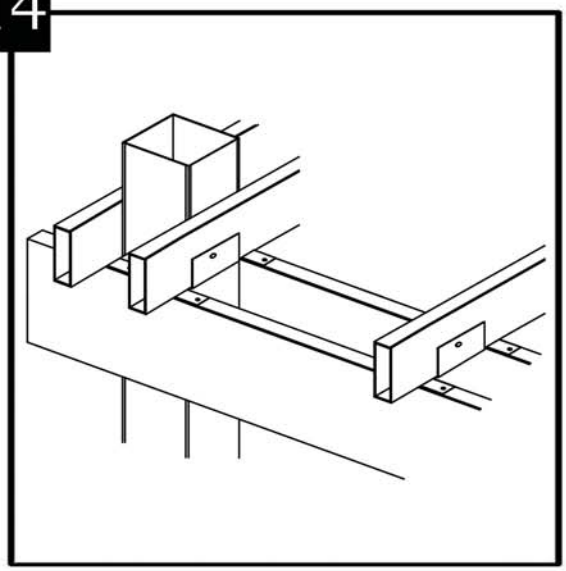
Section 4: Rafter Installation

13



Set and install inside and outside post rafters (U) first. Your measurment is appoximately 4" from the end of the rafter to the upright of the double beam rafter support bracket. (Z) Secure the rafters and the brackets to the headers using #10 x 1" (D) screws and hinged screw caps (J).

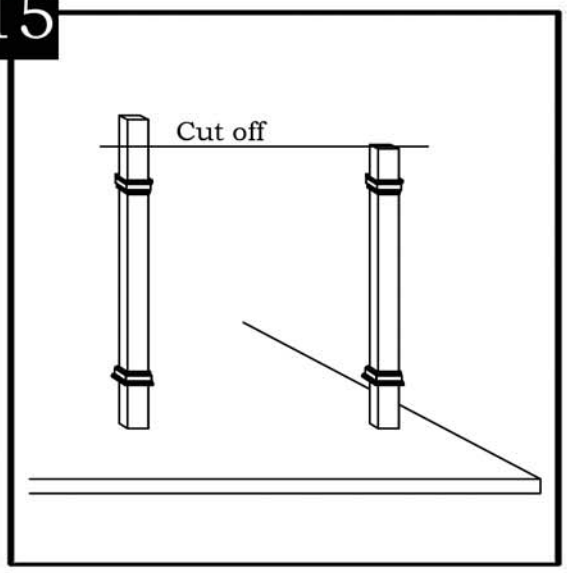
14



Position the remaining 2 rafters evenly. (Approximately 45" from inside to inside) Do not attach until you have spaced the rafters first. If you modify the projection or width these measurements will change.

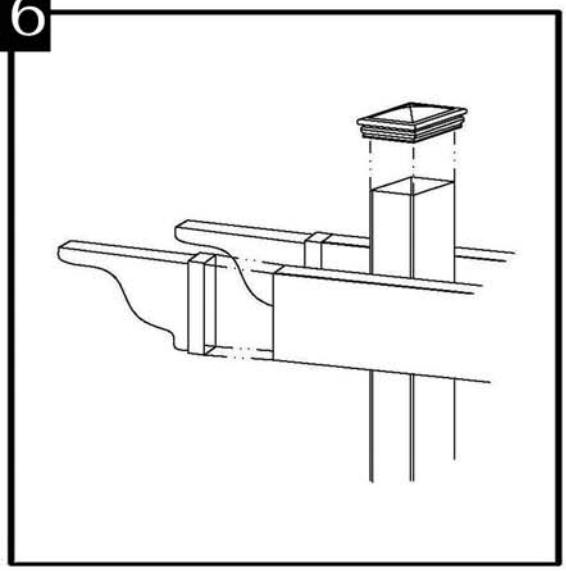
Section 5: Finish Work

15

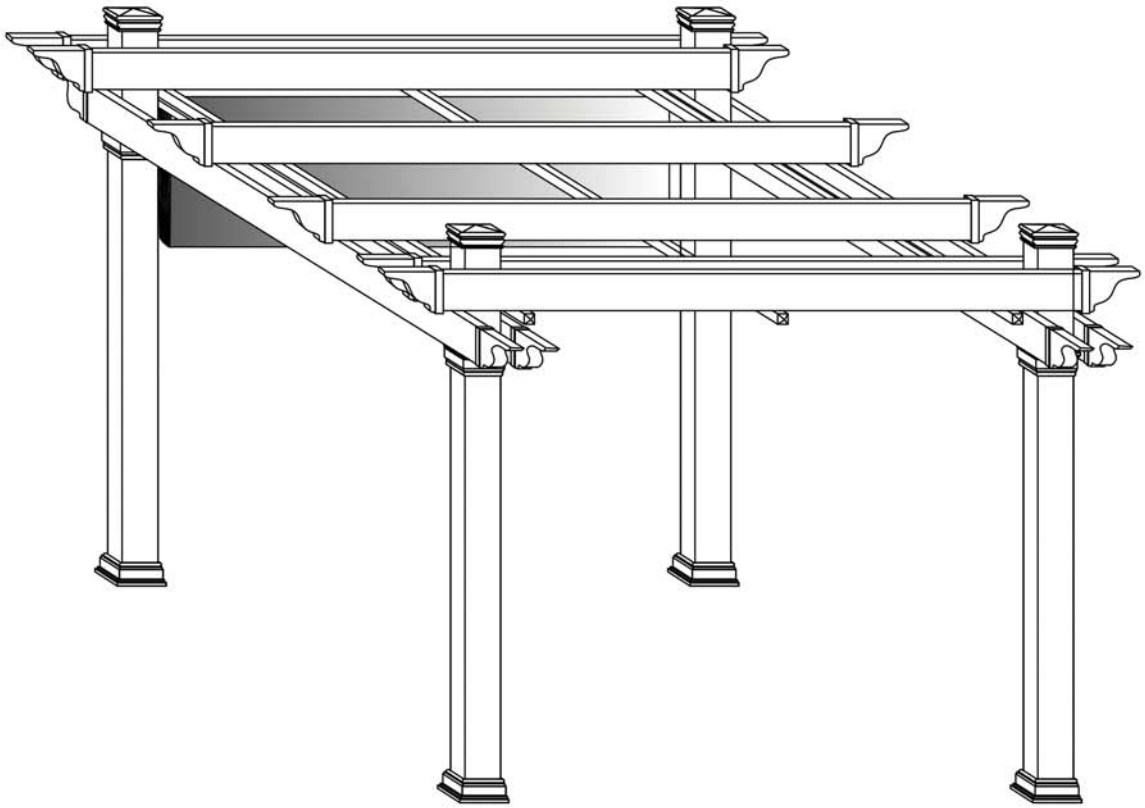


If needed, trim off any excess post sleeve. There must be at least 2" for the cap to fit correctly.

16



Install 1" hole plugs (H) in the headers. Place and secure the 4" post caps (K), decorative ends (X,Y) and purlin caps (AA) with glue.(I)



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Section 6: ShadeFX Canopy Installation

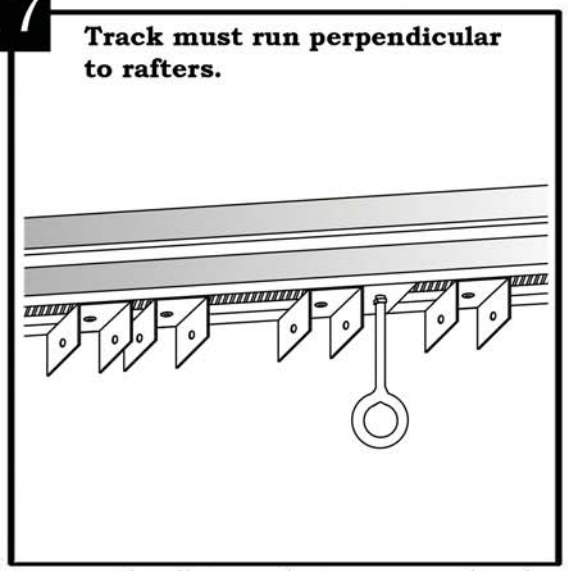
Caution - This system is not designed to support a snow load. We recommend taking down and storing during the winter months.

Caution - This system is not designed to support weight of any kind other than rain. Do not climb, rest, crawl, or hang items from the canopy.

Caution - Do not block or restrict the free movement of the canopy wings in any way. They are designed to float freely at their respective ends and this is a key element to the long term smooth operation of the system.

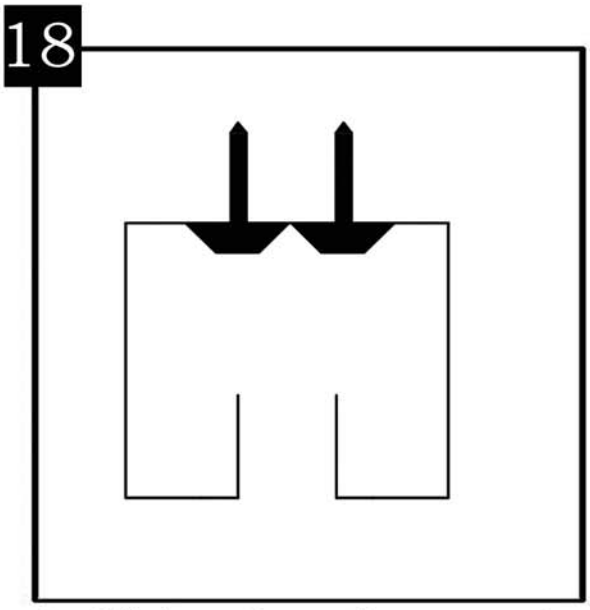
Caution - Although ShadeFX is designed to be used while extended in windy and rainy conditions it must not be left extended during storms of any kind. Always leave retracted during storms or wind above 35 mph. Retract the canopy system when wind warnings are issued in your area. The canopy must be taken down if there is a threat of very high winds (above 70 mph) .

17



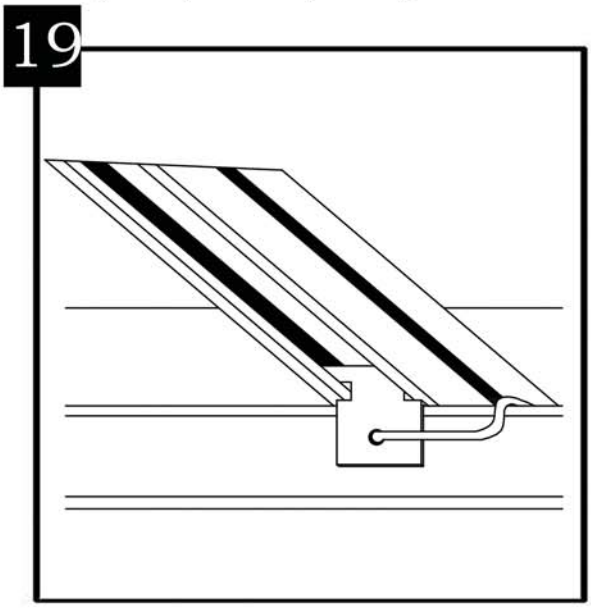
Measure the distance between your headers to find the center. Mark the center on the front and rear rafter. The track (EE) for the shade will be attatched to the middle of each rafter. The front of the track will have an eye shaped hook/locking mechanism.

18



Predrill the track according to your rafter spacing. Use a 5/32" drill bit. Each loaction drilled should have two screw holes side by side (not to close or your screwheads will not allow you to put them in, not spaced too far or you will not be able to fit the screws inside the track).

19



Determine the top of your shade canopy (the flaps should hang down naturally). Each metal ledger beam of the shade will have a pre-drilled hole in the center. Place into corresponding bracket and secure in place with a metal anchor (CC). Once all of the ledger beams are attached to their respective brackets, you can extend your canopy to test.

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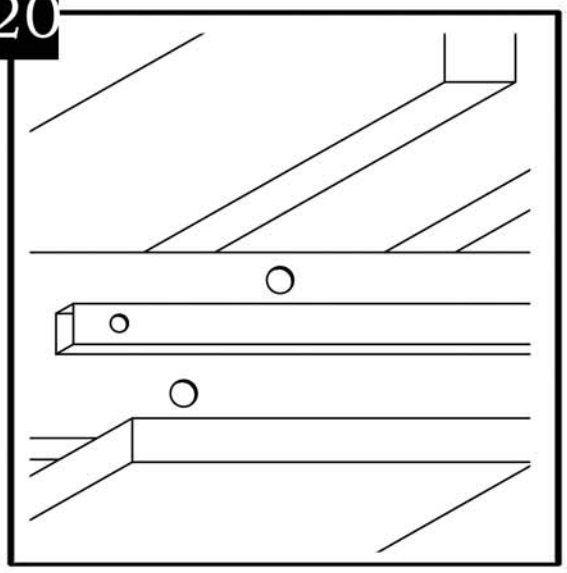
Section 6: ShadeFX Canopy Installation

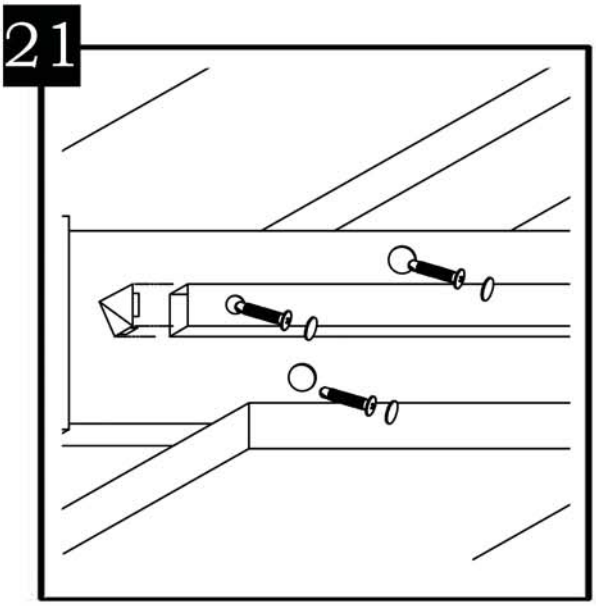
20



If your canopy is functioning properly, place it in the relaxed position. Locate the provided vinyl stabilizers. Measure 3.5" from each end of the stabilizer and mark their location. Evenly space the remaining screws (roughly 16") between the ends of the stabilizer. Pre-drill with a 5/8" bit through the first layer of the vinyl stabilizer. Measure 2 1/8"from the top of the header on each end and in the middle (center of pergola) and make light pencil marks. This will be where the top of the stabilizer bar will sit. Attach the stabilizer bar through your predrilled holes with 1.5" self-tapping screws.

You can set one stabilizer higher than the other to ensure the rain will run off your shade on the opposite side or you can set them evenly and the rain will run off both sides.

21



Install your hole plugs and stabalizer end caps. You can lock your canopy in place by turning your eye hook 3 times with the provided extension arm (DD).

Maintenance

ShadeFX is designed to be a maintenance free system. Thiere is no need to lubricate, clean or adjust anything in the mechanism or motor system.
Fabric maintenance is limited to reasonable cleaning of the fabric when it becomes soiled or stained. The fabrics are made for heavy duty outdoor use. In all cases a powerful hose-off (not pressure wash) with a mild brush scrubbing (no soap) is all that is needed to remove stubborn stains/dirt. Tree gum, sap and grease are best removed with acetone or turpentine.

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