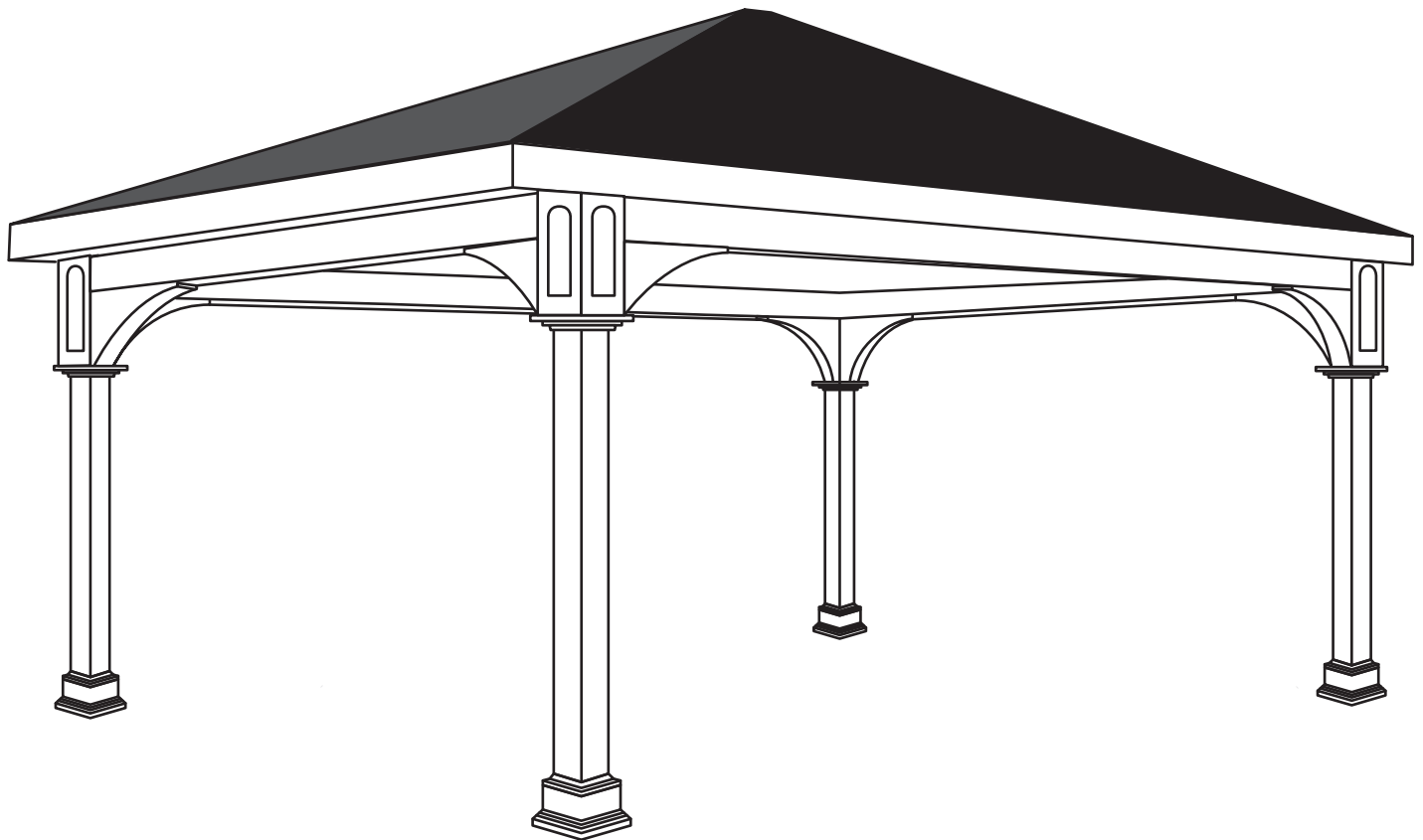


# PAVILION

## VINYL HIP ROOF (NO FLOOR) ASSEMBLY INSTRUCTIONS



Shown above is a 12' x 14' Hip Roof Pavilion

Thank you for your purchase of a new Hip Roof Pavilion. Depending on the size of your Pavilion, installation can usually be completed in 1 to 2 days. These instructions are meant to serve as a guide for people with a base knowledge of general handyman skills. ***This assembly requires a minimum of three people to complete.***

# Before You Begin

*Please always check with your local building codes, they will vary from state to state.*

The base for the Pavilion must be solid and level. If installing on a concrete slab or on concrete footers, they should be level where the posts will rest. If they are not, it may be necessary to cut the bottom of the posts so that the bottoms are all level. Other than this, no cutting is necessary. If you feel that you will need to make any additional cuts, please contact us before doing so. ***Making cuts without calling first may make installation difficult or void our warranties.***

When connecting to concrete, use wedge bolts, which are included in the kit. If connecting to an existing deck, a lag bolt and deck screws (not included) will replace the wedge bolt.

The Pavilion does not give the ability to alter the location of the posts. It is important that they are laid out correctly and double checked for accuracy before permanently attaching it to the base.

***NOTE: These instructions are for building a standard, rectangular pavilion. If your pavilion has custom dimensions with a longer gable side or square dimensions with equal sides, this reference point will need to be adjusted appropriately by the builder during installation. CALL WITH ANY QUESTIONS.***

## Site Preparation

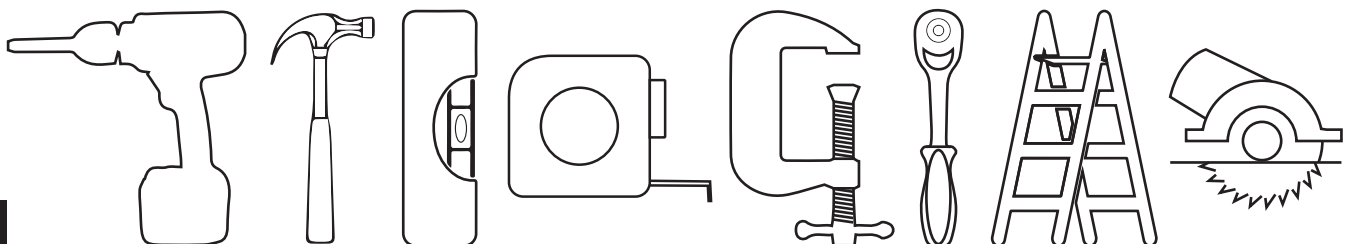
It is important that the site is properly prepared before beginning assembly. It is imperative that the site be level. There are a few choices when installing this structure, the two most common are to anchor the posts to concrete pad/wood decking or attaching to a concrete footer or two Sonotubes. Sinking the posts into the ground is not recommended unless it is called for by your local building codes.

Anchoring the posts to concrete/wood decking, is the most common method and is also the simplest. Please provide a level concrete or wood decking surface, and then lay out the template on the surface. Mark out the squares where the posts and brackets will go. Line up the markings that were made and this is where to set the posts. Posts cannot be anchored into loose pavers or stone. Customer assumes risk if not anchored into concrete or decking joists. This is the method that will be used for the following instructions:

Please check with the local building codes for the depth required for the footers/concrete slab. Also if using concrete footers make sure that all of the tops of the footers are level with each other before starting to build. Contact your Project Advisor with any questions that you may have.

## Tools Needed

*Hammer drill, hammer, level, tape measure, C clamps, socket set, ladder, circular saw*

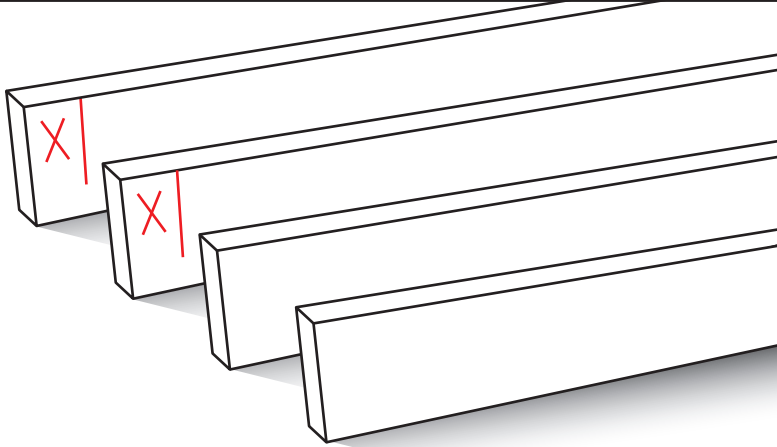


# Notes:

*An air-nailer or stapler can be used for rubber or asphalt shingles.  
(Air nails and staples not included in the kit.)*

*There will be a parts list sent with the Pavilion. All hardware is included in each Pavilion kit.  
The specific hardware will vary depending on the Pavilion. Please see the parts list for details.*

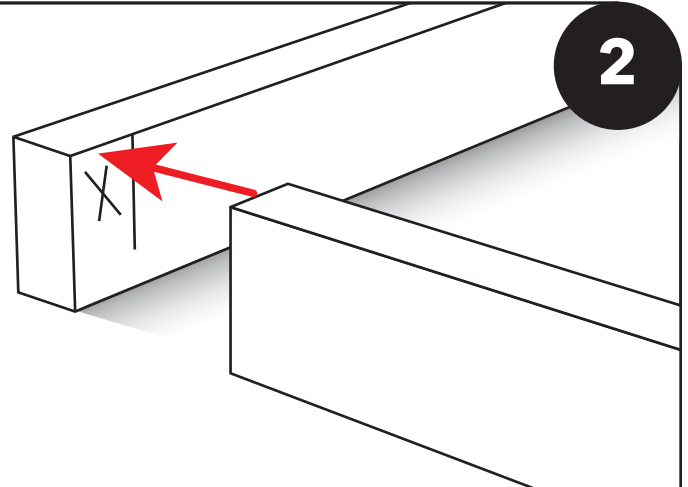
1



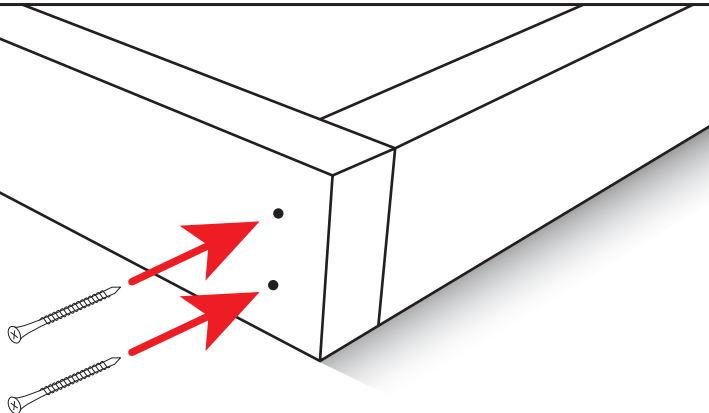
The Pavilion kit includes a wooden template that will be used to mark the post locations. Notice that two of the 2x4 boards have a marking near the ends. Building a box will reveal the outside corners of the posts when properly placed.

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

2



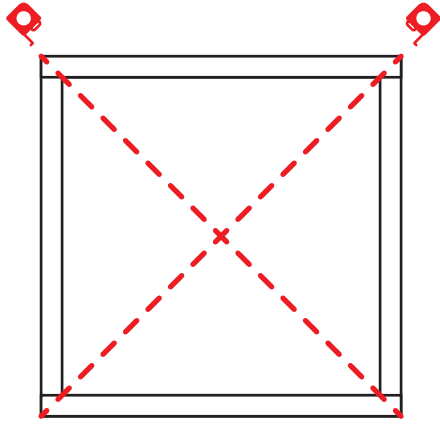
3



Connect the corners of the template pieces by driving two 2 1/2" screws through the side of the template boards.

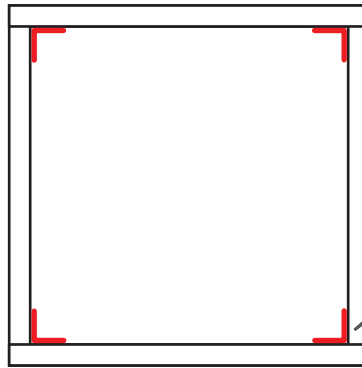
3

4

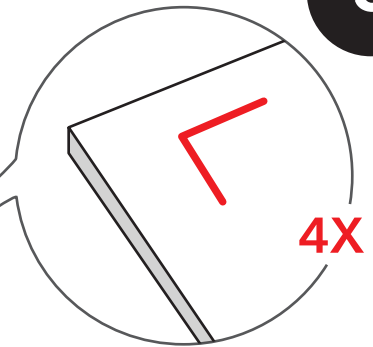


Once the template is in position, square the template. Do this by measuring diagonally from one corner to its opposite corner, then measure diagonally between the other two corners. These two dimensions **MUST** be the same. Adjust the template until the diagonal measurements are identical.

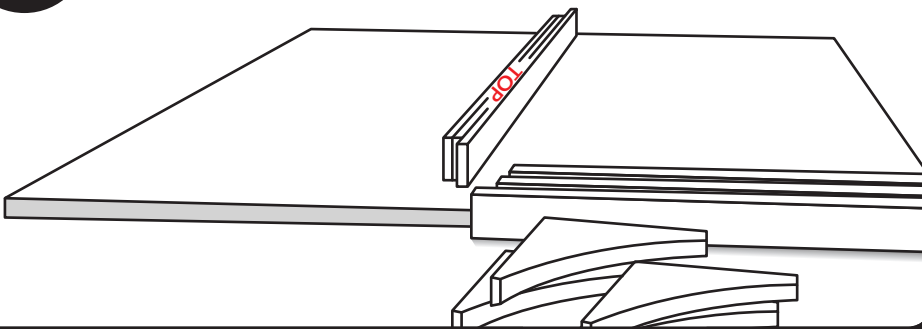
Once the template is "square", mark the post locations using the **INSIDE** corners of the framed box on the concrete slab with a pencil. After all the post locations are marked on the concrete slab, remove and set the wooden template aside.



5



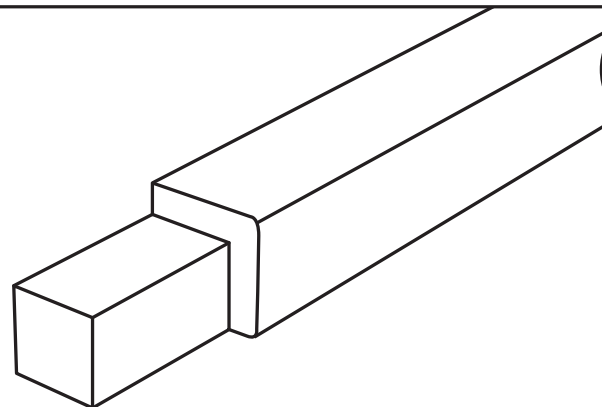
6



Begin by assembling the frame of the Pavilion structure. Please note that the Pavilion kit includes some pre-assembled pieces.

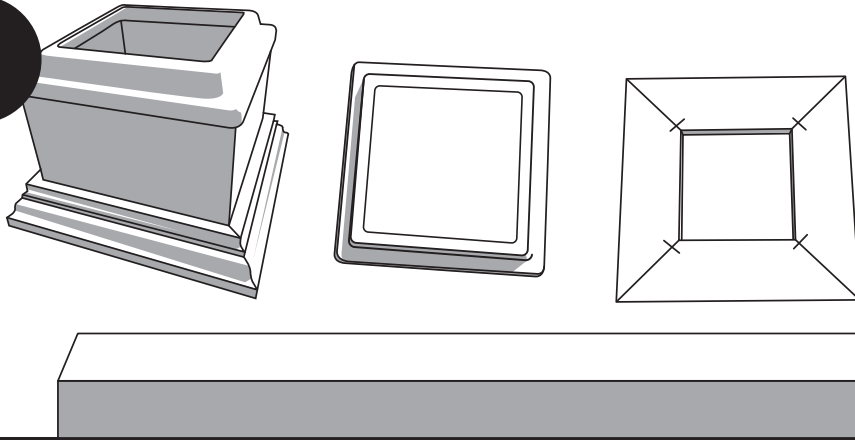
**Note:**The posts are notched on two sides. Turn the notches toward the outside of the building.

7



4

8



Collect post components to be placed on posts (Bottom post trim, top sleeve trim, top square trim, and post sleeve).

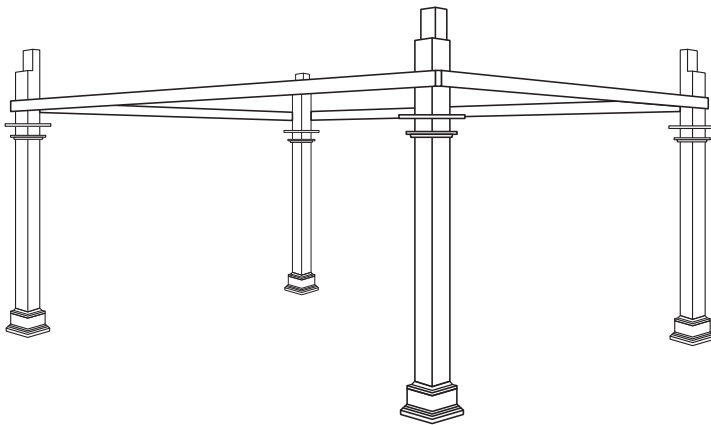
Assemble each post's vinyl kit. **NOTE: The notched side is the top.** With the post on the ground, slide the sleeve onto the post. Now install the base trim from the bottom. Slide the sleeve trim on from the top followed by the square trim. Complete this on all 4 posts and then set the posts upright.

**If you ordered Heavy Duty Anchors for High Wind, see page 24 Step 1 prior to standing up the post.**



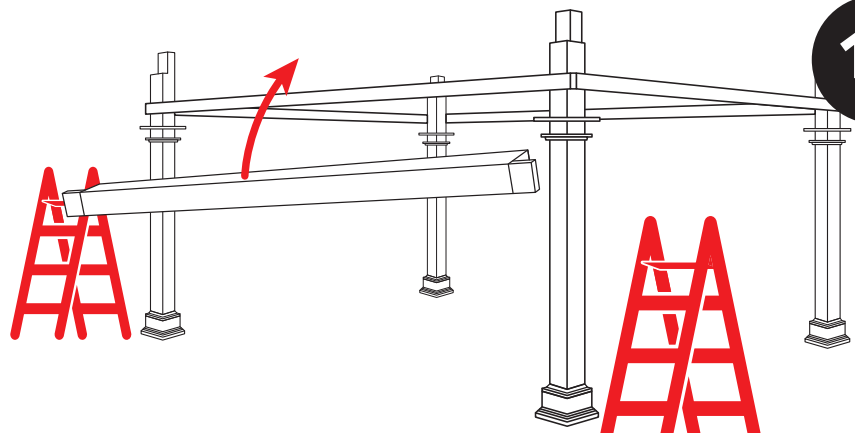
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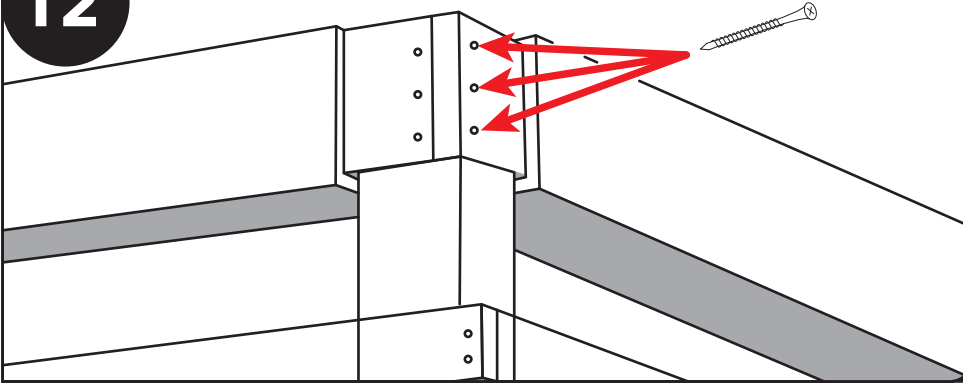


When you have all posts at marks, fasten the template boards to the tops of the posts. Make sure all posts components are on, as you cannot put these on later. Make sure all posts are level and everything is square.

Now you are ready to install the headers. Start with the long side. If you have a square Pavilion, all headers will be the same size. It might take three or four guys for this step. Fasten header to post with two 3 1/2" screws. Do not use the pre-drilled holes.

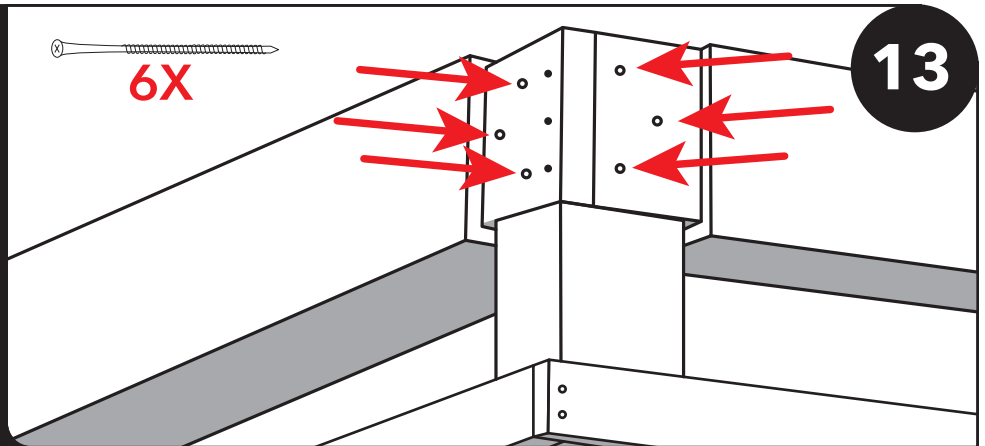
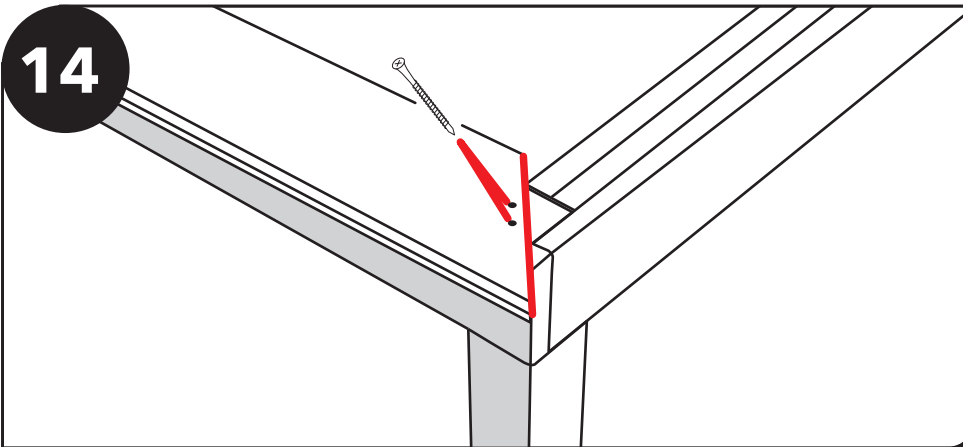


11

**12**

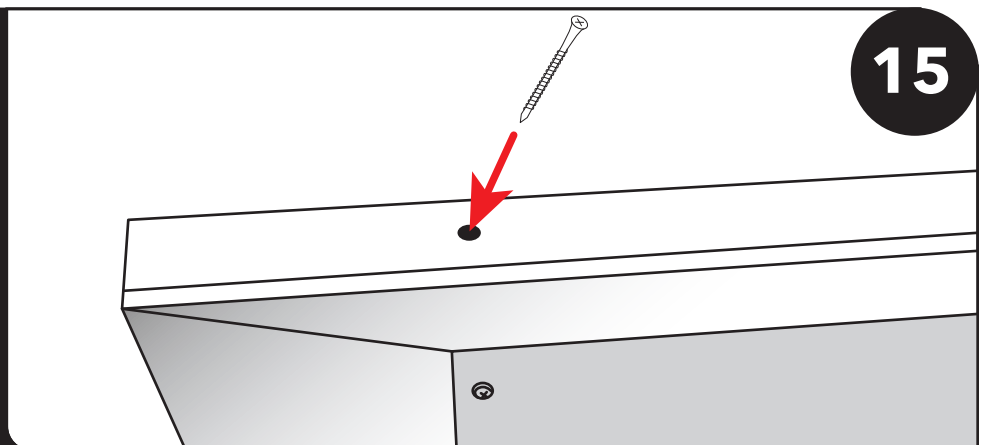
Once you have the two long side headers up, put the shorter ones on. These get fastened to other headers with three 3 1/2" screws. Use the three pre-drilled holes going into other header.

Locate twenty-four 8" GRK screws in the hardware box (if you have a standard 4 post structure). Those go in the pre-drilled holes at the corners of the beams. (6 per corner)

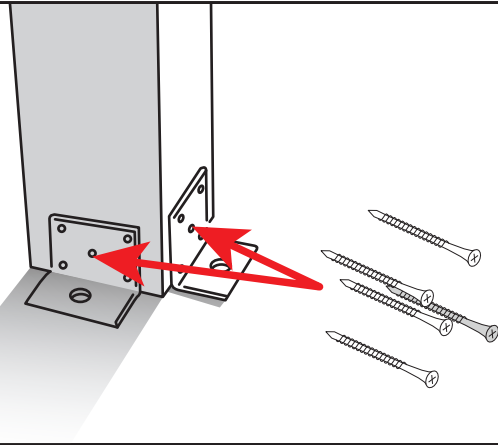
**13****14**

Install the top plates, vinyl side down. Position one 2x12 on the eaves side of the pavilion. Center the plate so that both ends fall at the same place on the top of the post, visually splitting the post-top from corner to corner. Be sure the overhang measurement matches on both ends. Use two 3 1/2" screws to fasten the plate. **DON'T CUT WITHOUT CALLING.**

Position another 2x12 plate against the installed 2x12, vinyl side down. It is important that the top plates equally overhang the structure to accurately center the roof. Fasten the new 2x12 to the installed 2x12 with one 3 1/2" screw. Once you have all four corners together, put two 2 1/2" screws down into the header approximately every 16" all around.

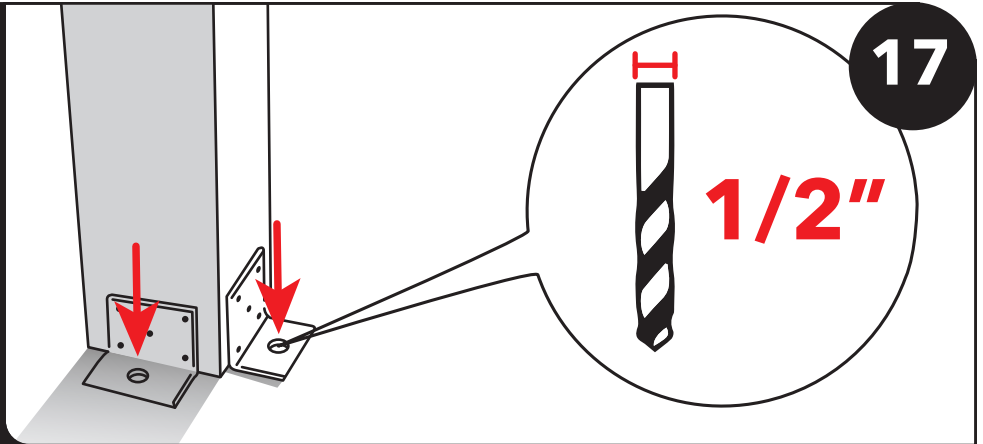
**6****15**

16



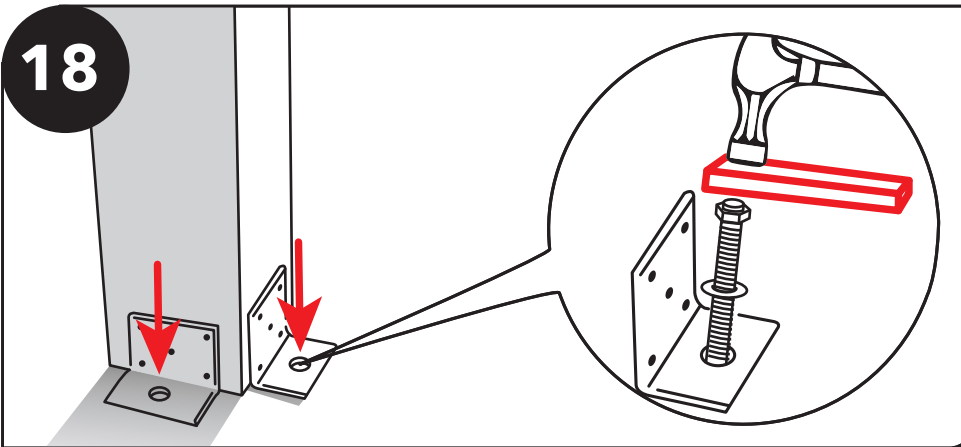
Slide the sleeve and post base trim up. Make sure the posts are all level and everything is square. Fasten two L-brackets on the outside edges of each post with five 2 1/2" screws per bracket. **NOTE: For HD High Wind brackets see bracket appendices on page 24 Step 2.**

When all posts have two L brackets on, use a drill with 1/2" masonry bit to drill down about 1/2" farther than length of wedge anchor.



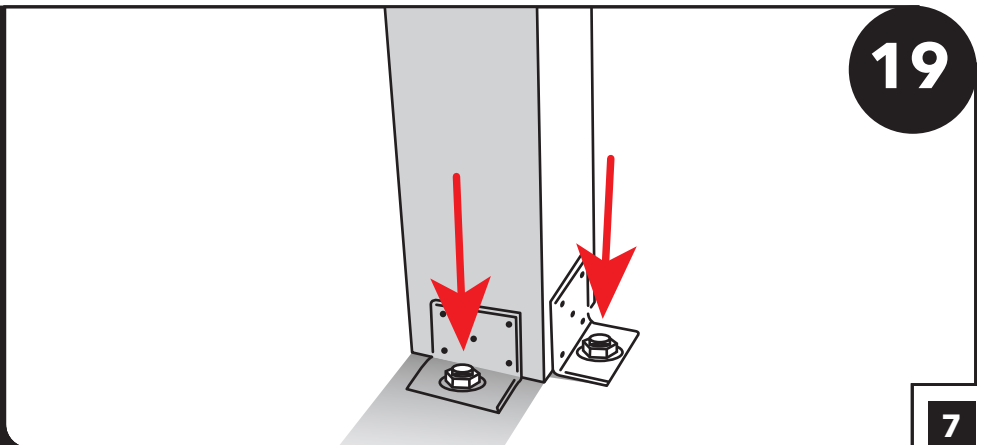
17

18

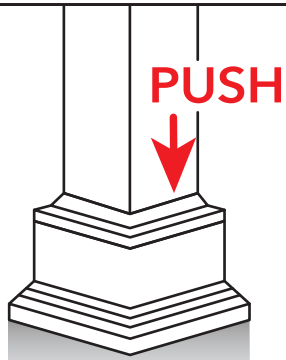


Before inserting the bolt, make sure dust is removed from hole, then screw the nut and washer on about 1/8" below the top of the bolt. Next, insert the wedge anchor bolt into the hole. To protect the threads and nut, tap the bolt into the ground with a piece of wood as a buffer.

Once the wedge anchor is down against the bracket, use a wrench and tighten it down. Do that with all the anchors.

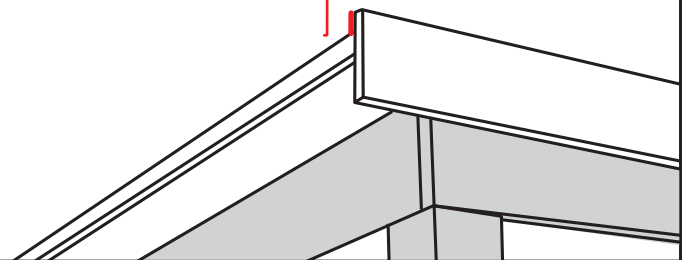
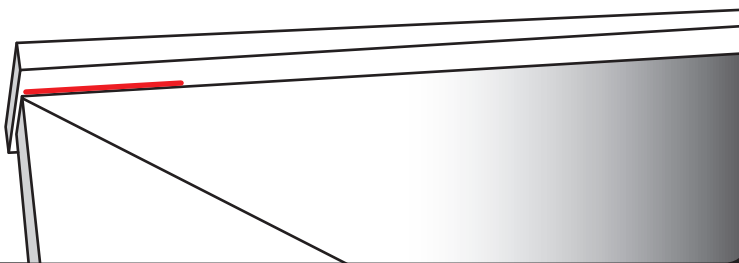


19

**20**

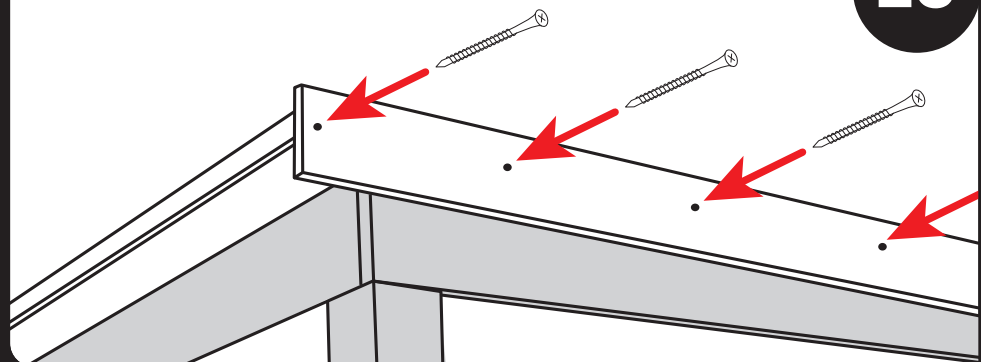
When all of the nuts have been tightened fully and the posts are securely mounted to the concrete slab, slide the sleeve and post trim down.

Install the fascia boards. The fascia will need to sit  $1\frac{1}{8}$ " ( $1\frac{7}{8}$ " with metal roof) above the top of the top plate boards. Measure up  $1\frac{1}{8}$ " on the board and make a mark. Do this toward each inside end of each fascia board, installing the short sides first.

**1 1/8"**
**21****22**

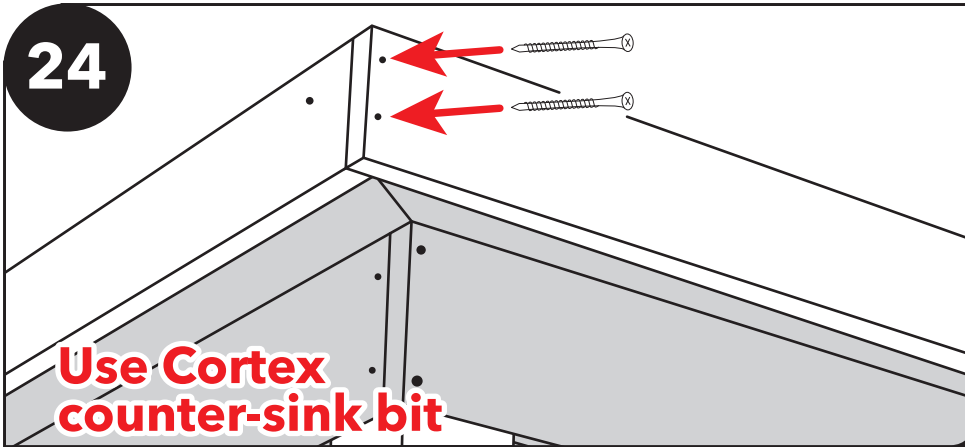
Hold the first short-sided fascia board in place with the mark made, resting on the outside edge of the top plate. Also both ends of the fascia board should meet flush with the end of the top plate boards. These you might need to cut down if needed.

Next, using the Cortex countersinking bit, drive  $2\frac{3}{4}$ " Cortex screws every 20" along the entire length of the fascia board. Follow these same steps with the other gable-side fascia boards, as well.

**23**



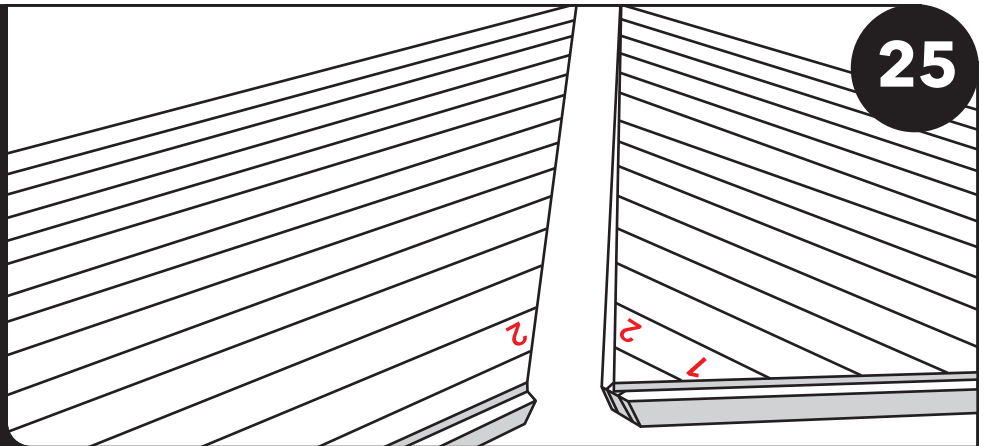
24



**Use Cortex counter-sink bit**

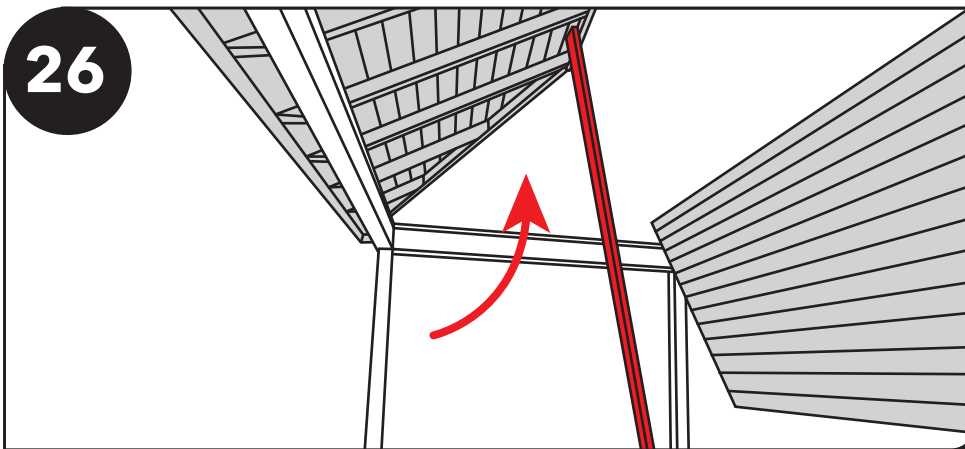
The long side fascia boards will overlap the short sides and will extend out past them. Align the premarked line with the end of the short side fascia board ends. Attach the long side fascia to the top plate just as was done with the short sides. The long fascia will need to be connected to the short fascia boards with 2 1/2" screws. Follow this process until all fascia boards are installed.

You are now ready to install the roof panels. Match the numbers on roof panels, starting with the long side first.



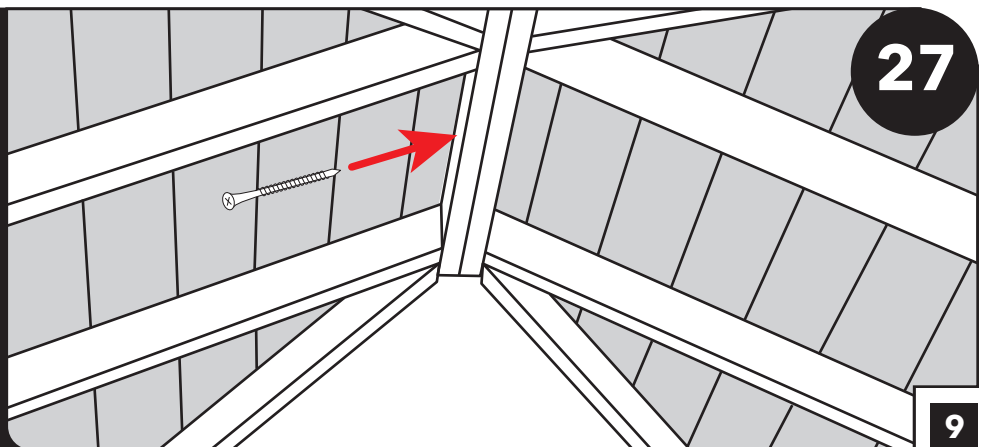
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26



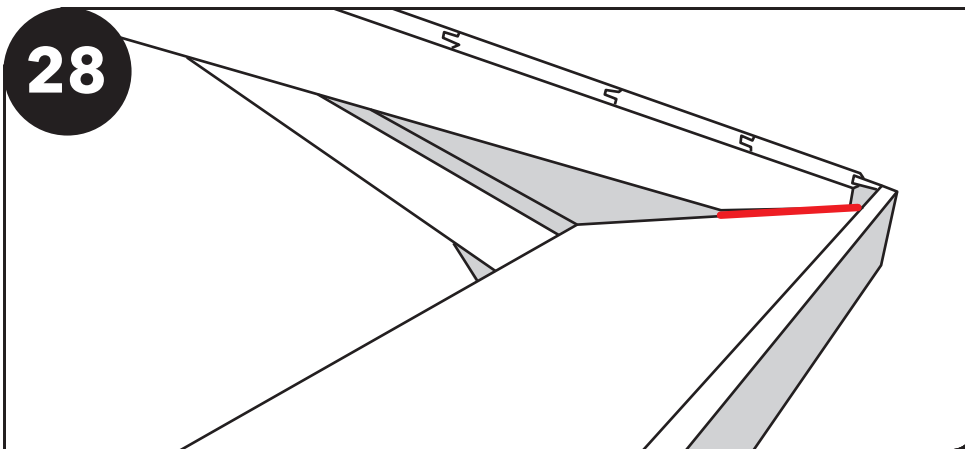
Lift one of the roof panels up past the plate on the outside of the pavilion. When the roof panel's rafters rest against the fascia board, use a board prop to keep the roof in place. **Note: If you ordered a square pavilion, install roofing panels in a clock-wise order. Be sure to screw each section together after lifting into place.**

Raise the second roof panel. You might have to lower the prop until they meet at the ridge pole. Make sure the ridge pole is flush on both ends. Fasten them together with 2 1/2" screws every 16". **NOTE: If you ordered a square pavilion, skip this step.**



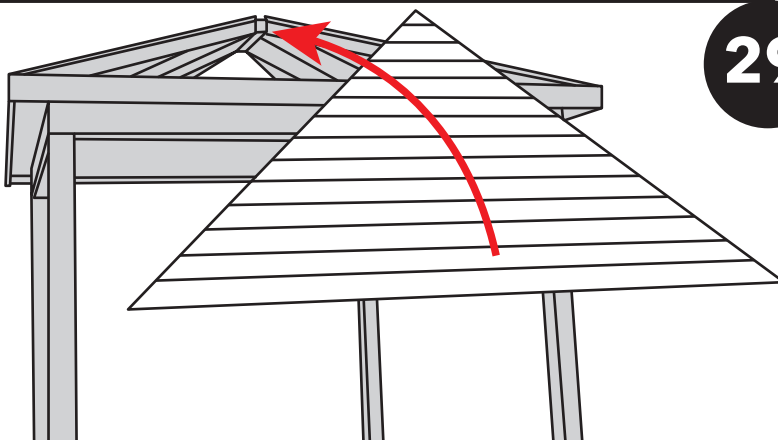
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28



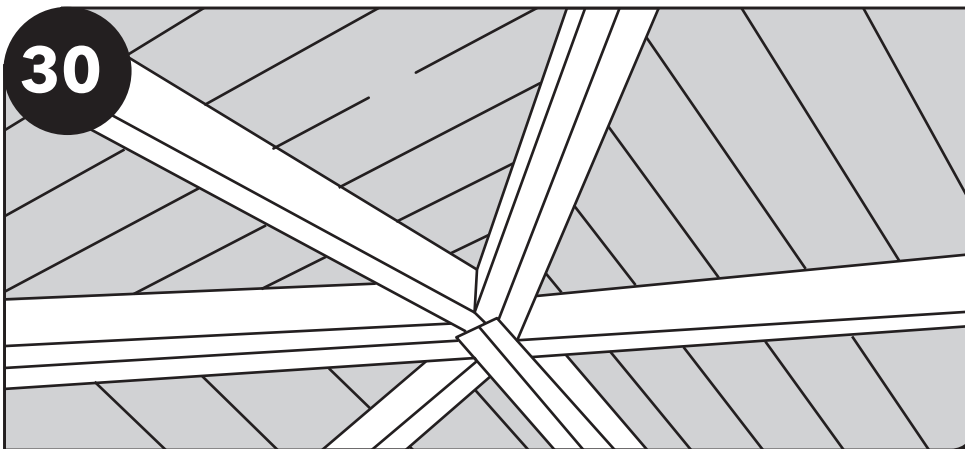
Make sure the panels are at the corners of the plate.

Lift the others into place. Make sure the numbers match.  
**Note: For square pavilions only. After you have the four roof sections installed, match the numbers of the compression ring with the roof panels. Install the ring accordingly. Using 2 1/2" screws, fasten the compression ring into place through the pre-drilled holes.**



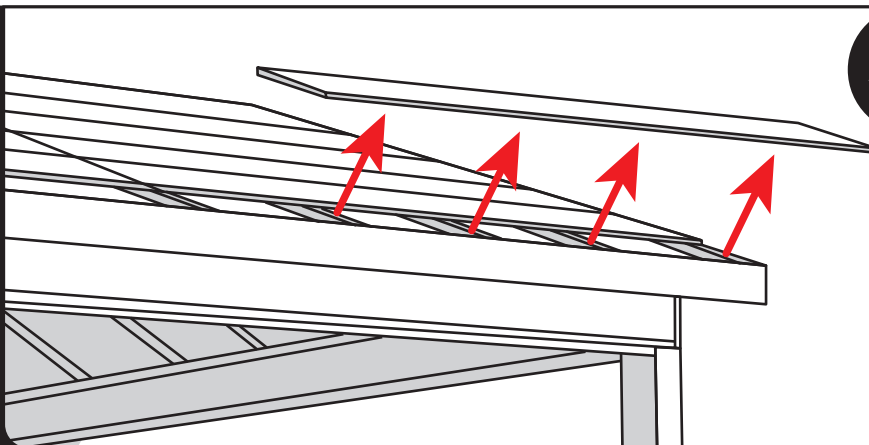
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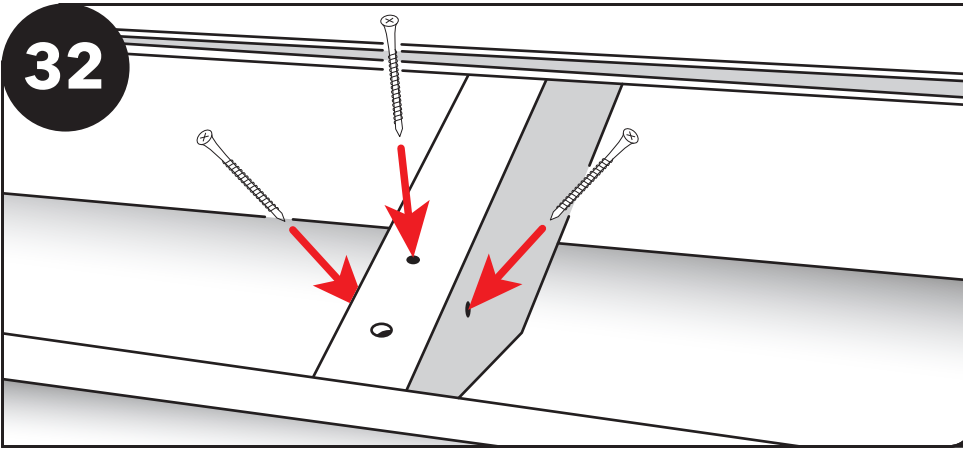


Screw the ridge beams together with 2 1/2" screws every 16". (You might have to push up on the ridge pole to make it fit properly.) Repeat this process with the other side.

When you have attached all roof panels together, go up on roof and take the bottom t&g board off.

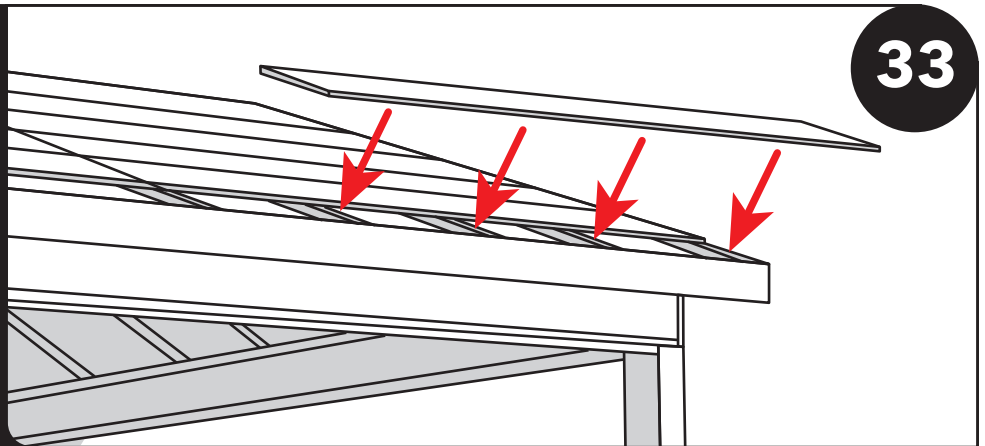
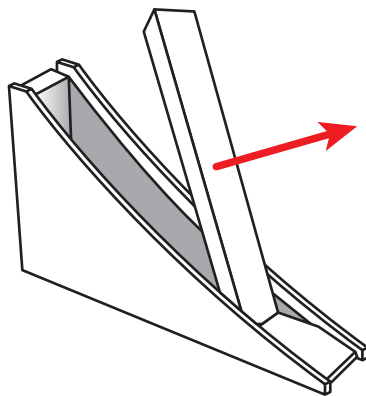


31

**32**

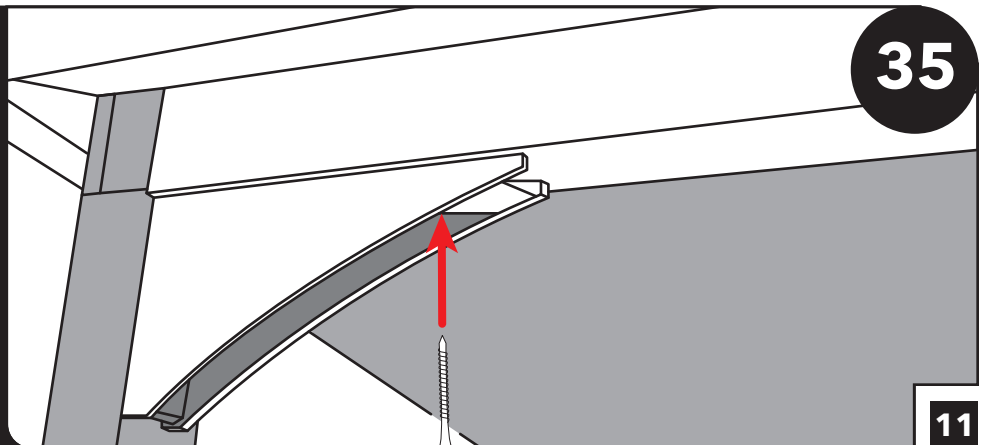
Use 2 1/2" screws to attach the rafters to the top plate. You will want to screw one screw into the top of each rafter and then another screw into the side of each rafter.

Once all of the rafters are attached to the top plate, you can now re-attach the roofing boards that were previously removed.

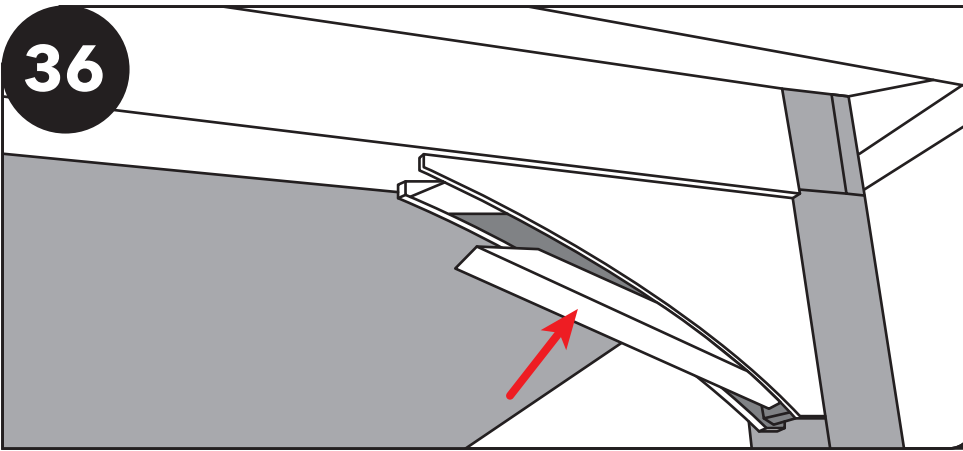
**33****34**

Locate the corner brackets. Take the 2x4 board out from center of brace.

Keep the brace flush on the outside of the post. Fasten to post with two 3 1/2" screws and up into the header with two 3 1/2" screws. Line the top of the brace up with the header seam above, staying 5/8" from flush. Being sure to keep the back of the brace flush with the post below.

**35**

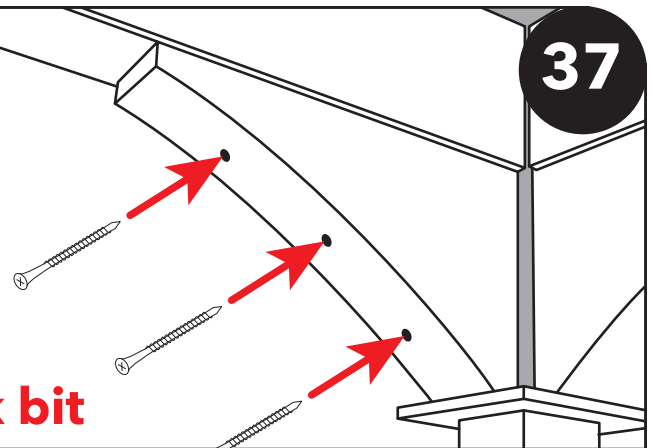
36



Once you have all the braces installed, put the 2x4 block back in place, fasten with two 2 1/2" screws at the top and two 2 1/2" screws at the bottom.

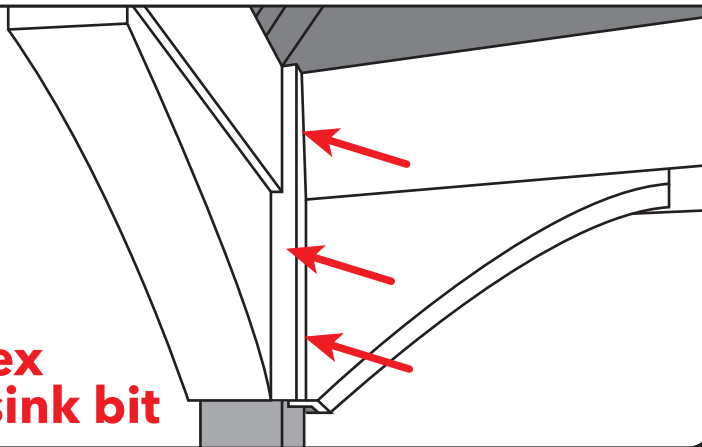
Install the bottom brace covers using three 2 3/4" Cortex screws. Continue with all 8 braces.

**Use Cortex counter-sink bit**



37

38

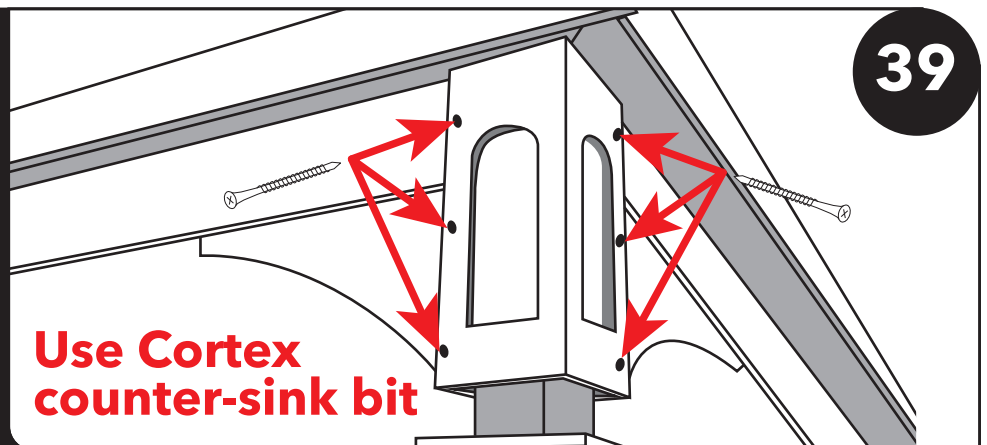


**Use Cortex counter-sink bit**

Install the inside corner trim. Fasten with three 2 3/4" Cortex screws.

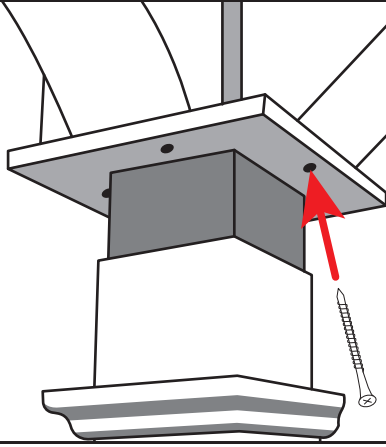
Place the outside corner trim box flush against the header and the brace, being sure that the top corner point is centered on the plate seam. Fasten with six 2 3/4" Cortex screws into the pre-drilled holes on the face of the corner trim.

**Use Cortex counter-sink bit**



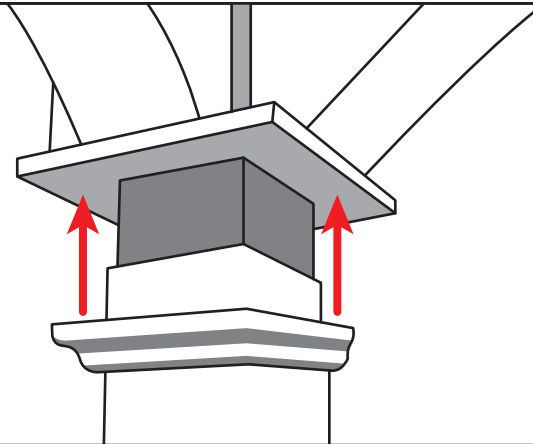
39

40



Fasten top square trim to bottom of brace with 2 1/2" screws.

Slide the 6x6 top sleeve trim up to the top square trim and fasten with 1 1/2" pan head screws one centered on every side.



41

42



Plug all countersunk Cortex screw holes with provided plugs; and using the provided caulk, caulk all gaps in the trim components.

# Installing Collar Ties

Your pavilion kit may include collar ties. Collar ties prevent the middle of the main beams from bowing outwards due to the downward pressure of the roof due to gravity (i.e., the weight of the roof).

**1**

Identify the collar ties in your kit. A collar tie is a 2x4 (2x6 for larger sized pavilions) with the ends mitred to match the pitch of your roof, like this:



For the purposes of these instructions, we will assume you have a 2x4 collar tie, rather than a 2x6.

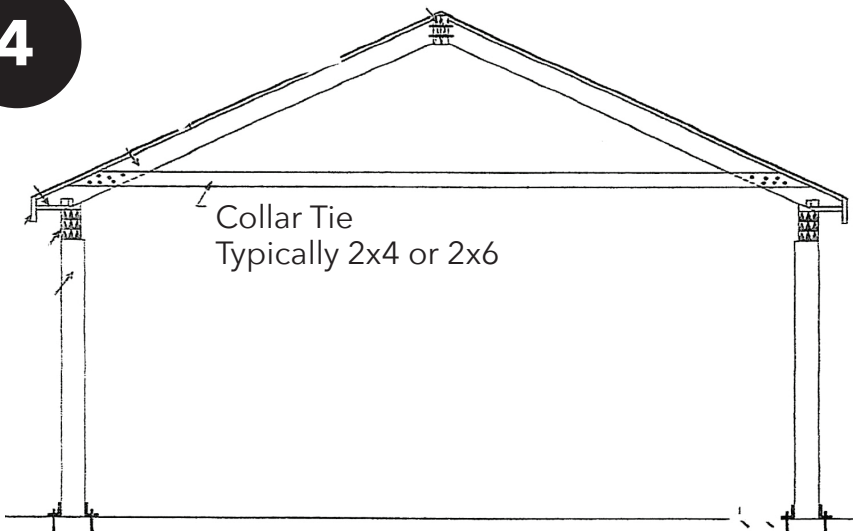
**2**

If you have only one collar tie, you will fasten it to the center rafter (skip to Step 4 on the next page). If you have more than one collar tie, space the collar ties on the ground evenly along the length of the structure, each collar tie directly below a rafter.

**3**

Grab a collar tie and raise it up to the interior ceiling of the structure. Push the collar tie up against the bottom of T&G so that the mitred end of the collar tie is flush with the bottom of the T&G, and the 4" face of the 2x4 is flush against side of your rafter.

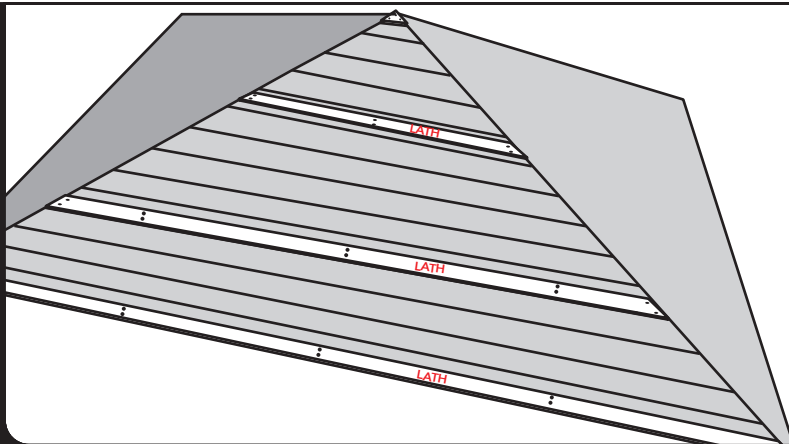
**4**



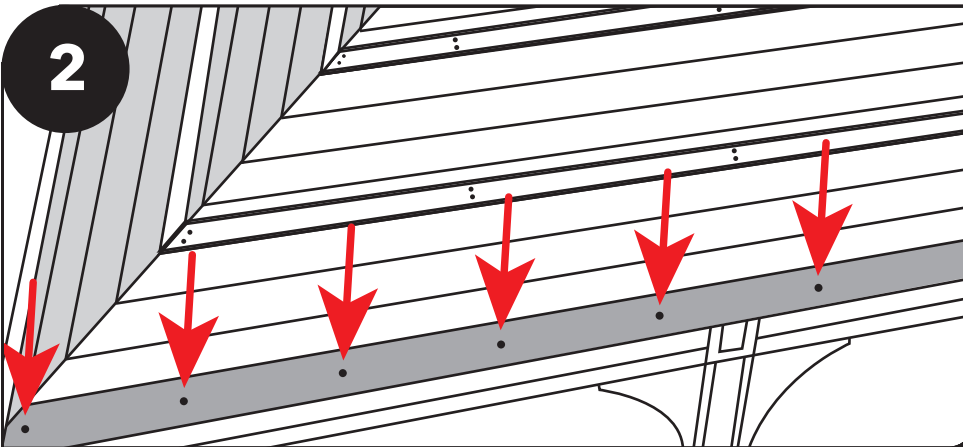
Fasten the collar tie to the rafter with six 2 1/2" screws at each end of the collar tie.

# Roofing Option 1: Installing A Metal Roof

Fasten horizontal "Roof Lath" pieces with two 2" roofing nails at each rafter. Place the first piece of lath directly on top of the lowest decking board. Space each lath board roughly 20-24" apart with the longest piece placed at the bottom and the shortest piece at the top. (Lath boards may need to be cut to length.)

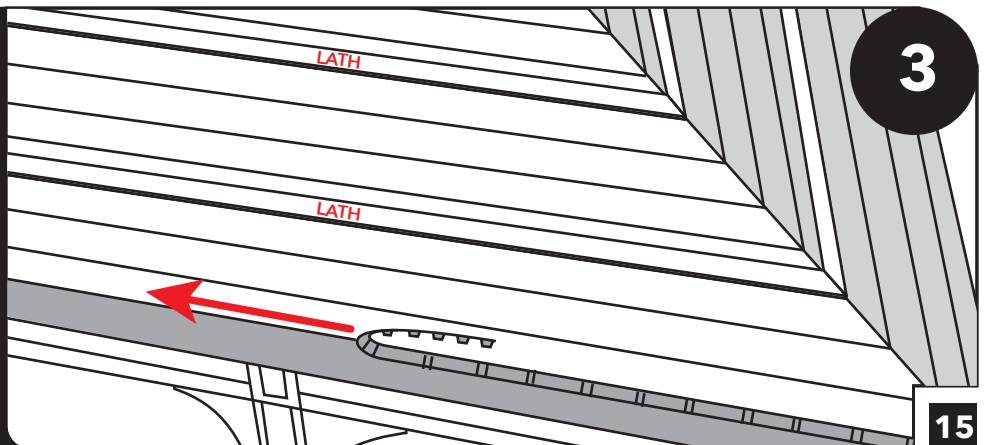


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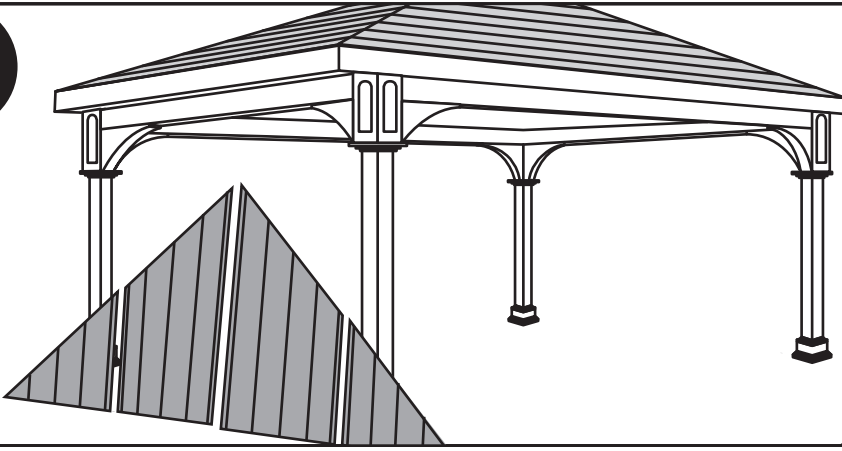


Install the drip edge over the bottom lath piece. Cut each piece to length. Fasten with 1" screws, staples, or nails every 16".

Install the ribbing roughly 1 1/2-2" from the bottom of the drip edge. Do not stretch the ribbing because the grooves of the roof must line up with the ribs.

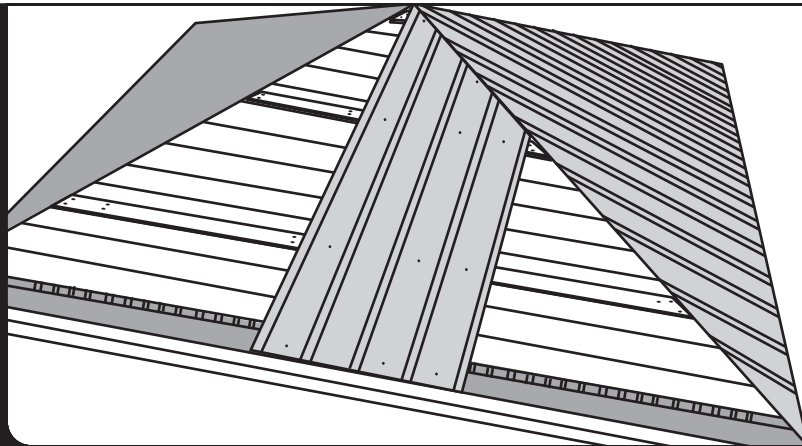


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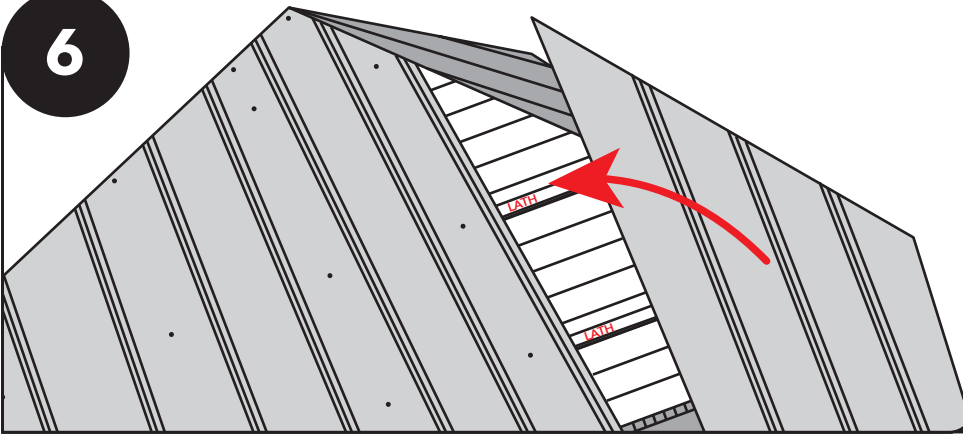
Lay out the roof tin.

Install the tin, starting at the center and moving to each end. Ensure the first piece is installed squarely. Keep the bottom of the tin flush with the drip edge. Fasten with 1" screws. The first piece will have 3 screws at every lath.



5

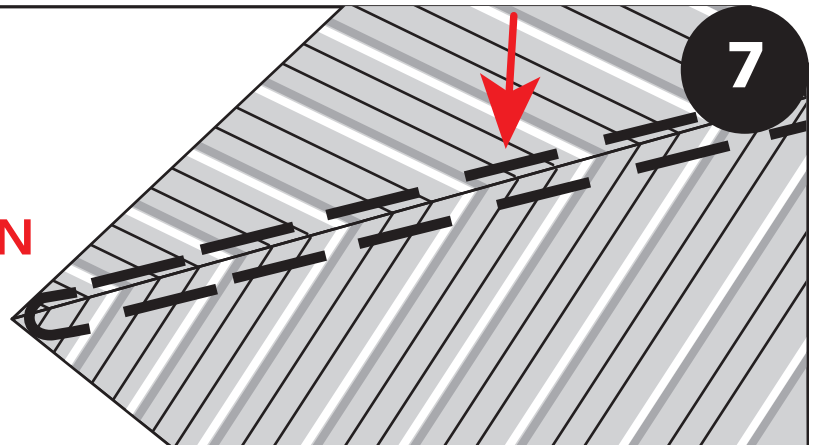
6



Repeat step 4 on all sides.

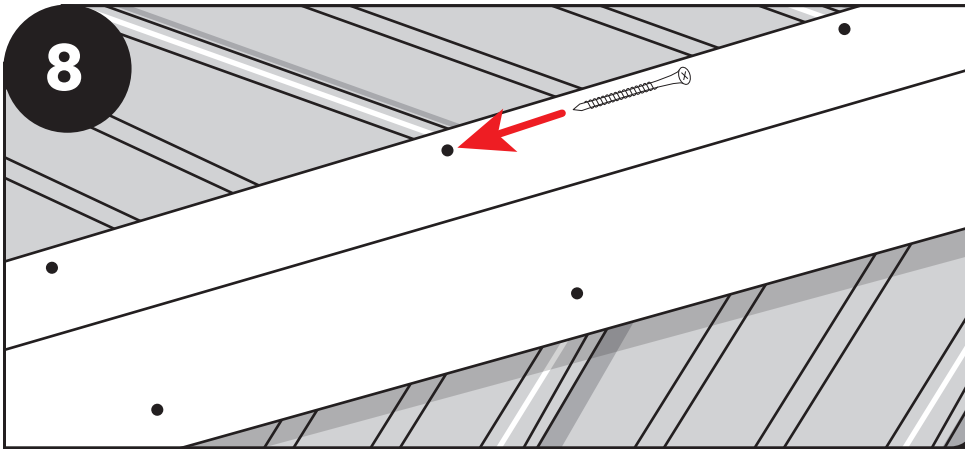
Peel backing off of the foam and apply foam to the tin roof. Make sure not to go wider than the hip capping.

TOP  
DOWN  
VIEW



7





Fasten hip capping with 1 1/2" screws on the tall ridges.



Fasten ridge cap with 1 1/2" screw on both sides.

## Roofing Option 2: Installing An Asphalt Roof

*NOTE: Before you begin the steps below, install roof paper starting at the bottom. Be sure to overlap 2" as you work upward. Drip edge will then be installed on all edges of the roof, using a fastener every 16".*

### Roofing Fasteners

Please note we do not include fasteners for asphalt shingles with our kits. This is because some states require different fasteners than others, and because some customers have different tools than others (hammer, nail gun, pneumatic stapler, hammer tacker, etc.).

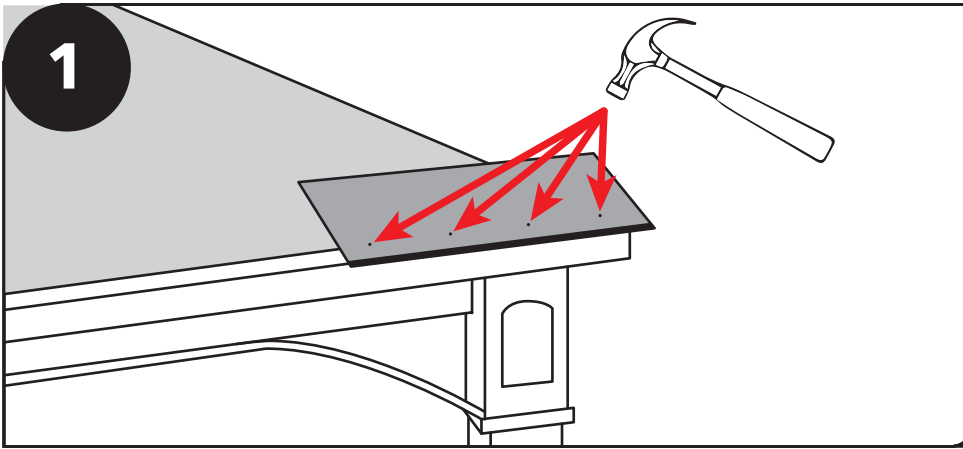
Please use shallow depth fasteners to fasten your shingles to your 1x6 roof decking. For example:

- 5/8" long roofing nails
- Roofing staples with 5/8" leg and 1" wide crown

These fasteners will certainly be sufficient to hold the shingles to your roof in high storm winds, and will not pierce the bottom surface of the 1x6 roof decking.

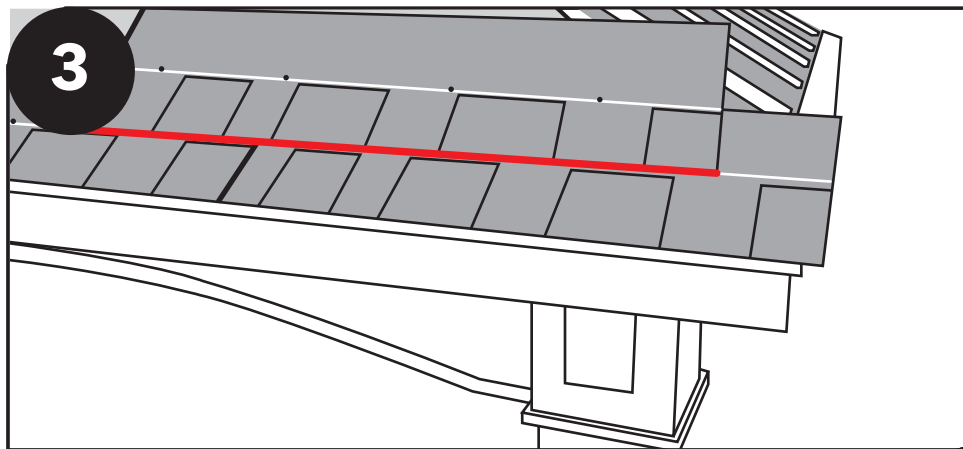
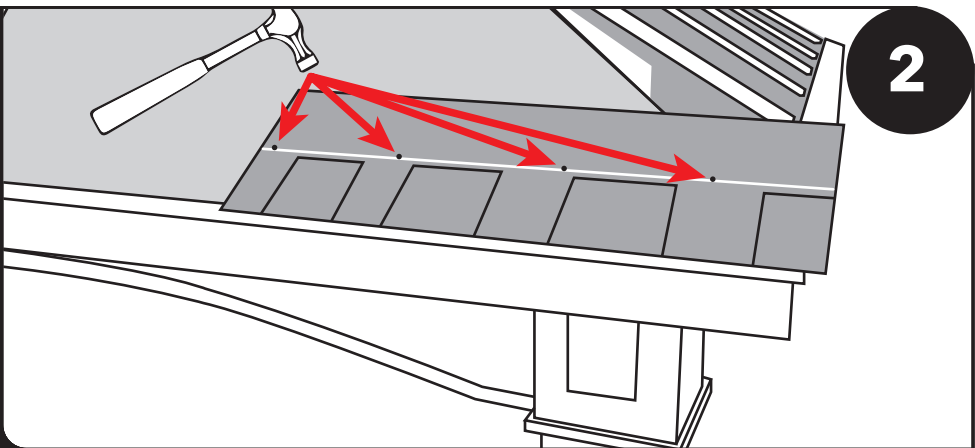
**DO NOT PLACE PLYWOOD, OSB (ORIENTED STRAND BOARD) OR OTHER DECKING ON TOP OF THE 1X6 TONGUE AND GROOVE.**

It is not necessary and is too heavy for your structure.



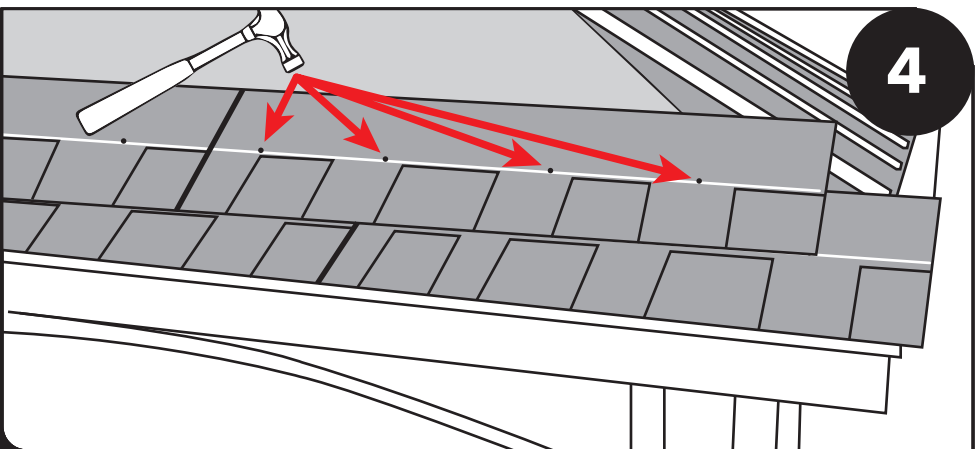
To install 1st row of shingles, turn shingle upside down with black tar line at bottom edge facing up and attach to roof using four 5/8" roofing nails. Place nails approximately 3" from bottom.

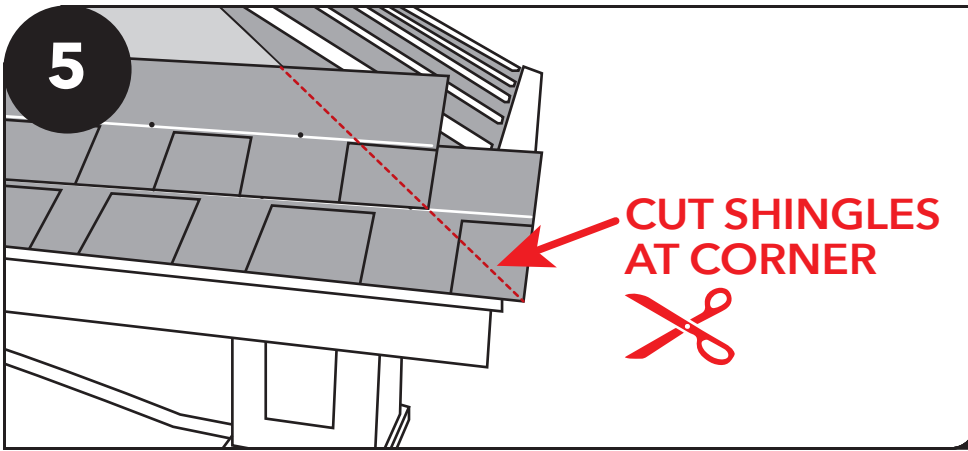
Use four 5/8" roofing nails and attach to roof through shingle at the center line marked on the shingle. Do not fasten below the line or your fasteners will be exposed.



Start second row, line up bottom of shingle with the architectural line on the shingle below.

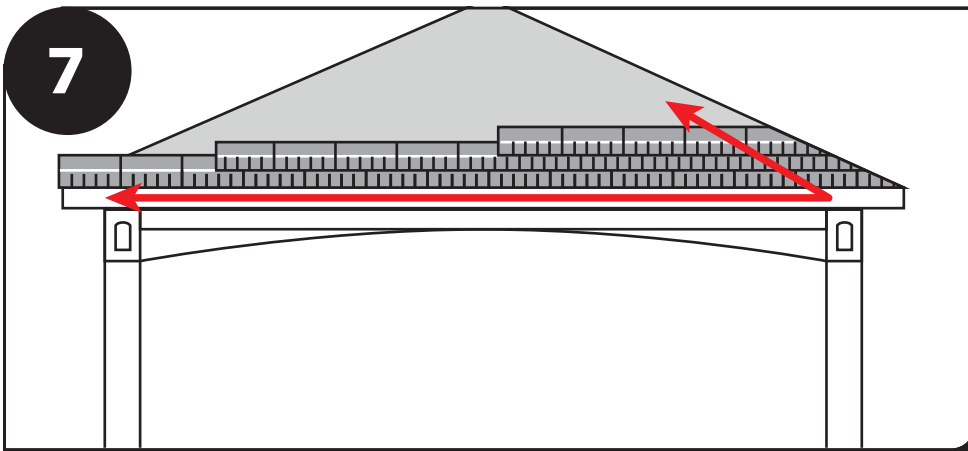
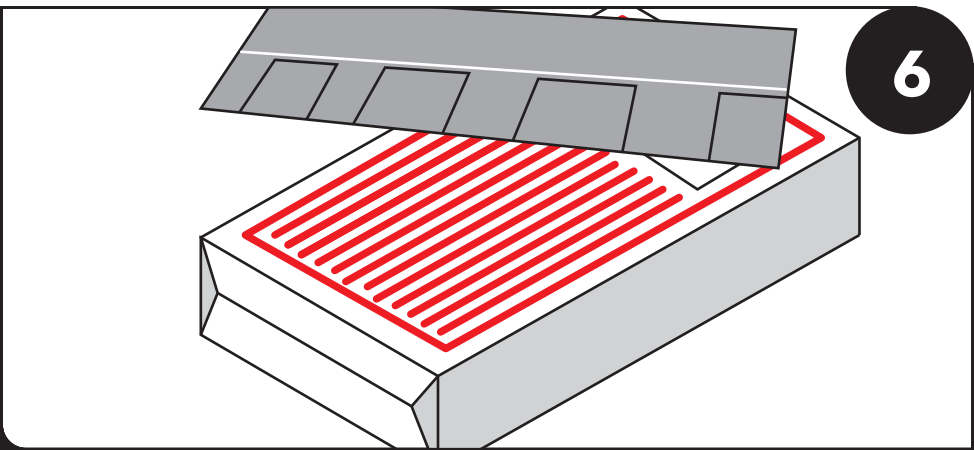
Attach second row of shingles to the roof using 5/8" roof nails provided or a power stapler. Do not use long nails or staples that protrude through 1X6 roof decking.





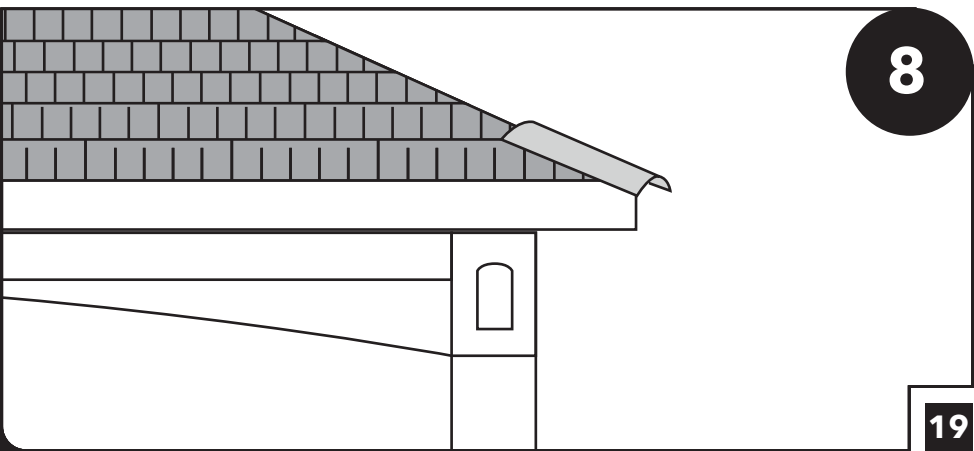
Trim corner shingles using a shingle scissor or utility knife. When using a knife cut on the bottom side.

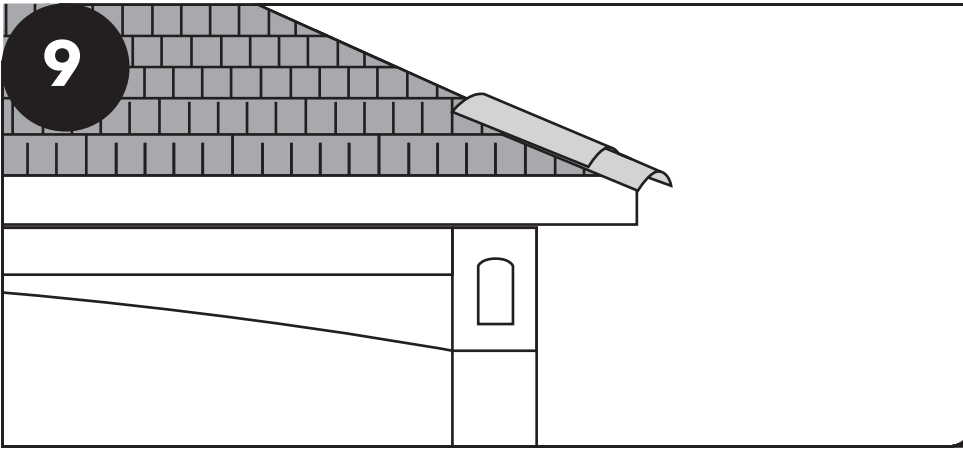
Also see instructions on shingle package.



Work across then up. Continue to the top.

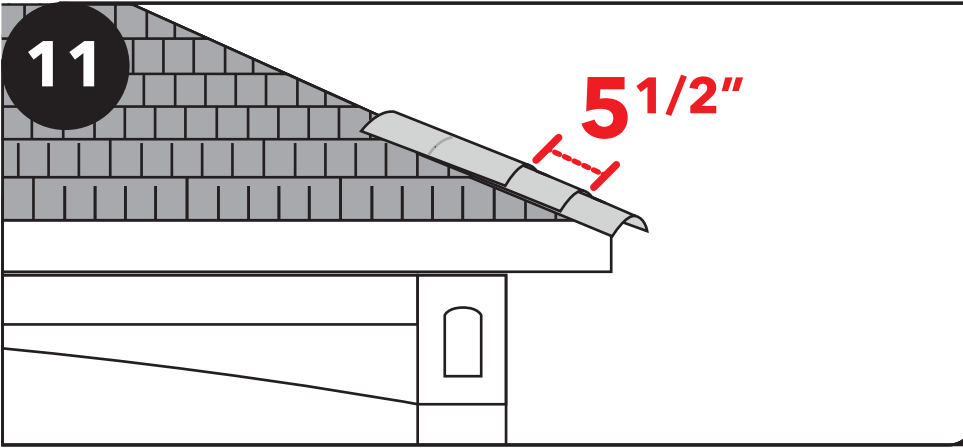
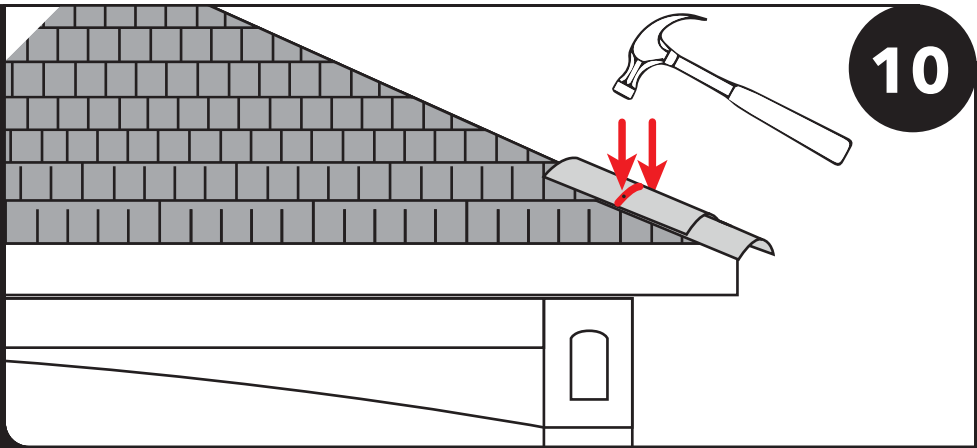
To cap the ridge, start the first capper centered on the ridge down past the corner.





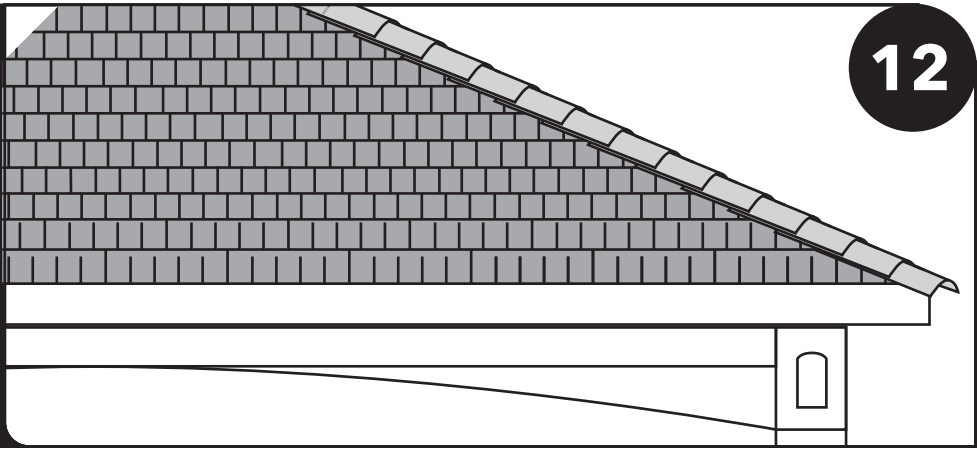
Place second capper into place.

Fasten using two 5/8" roof nails per capper. Fasten nail through the black tar strip.



Leave approximately 5 1/2" exposed to the weather.

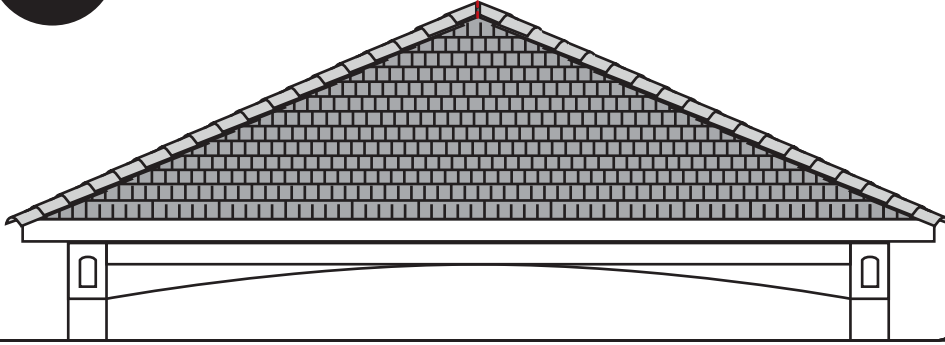
Continue up the ridge using the same previous steps. Install cappers in a nice straight row for a neat appearance from a ground view.



13

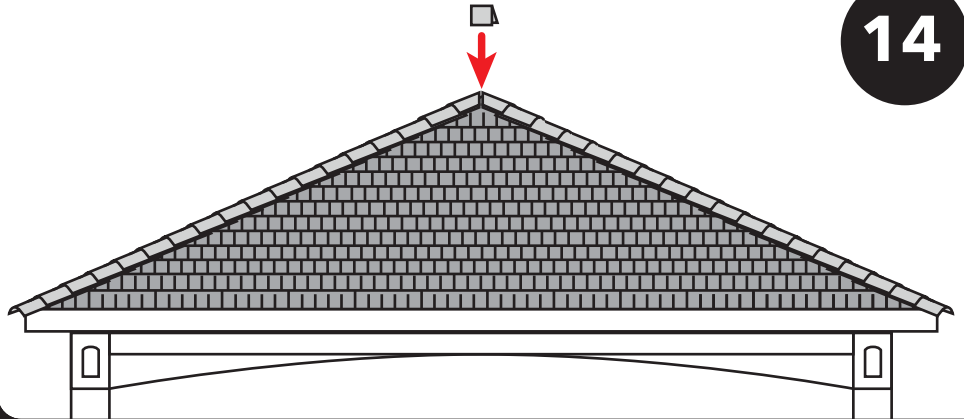
CUT CAPPERS  
AT PEAK

Trim the top.



Last piece will need cut in half and will bring the corners together.

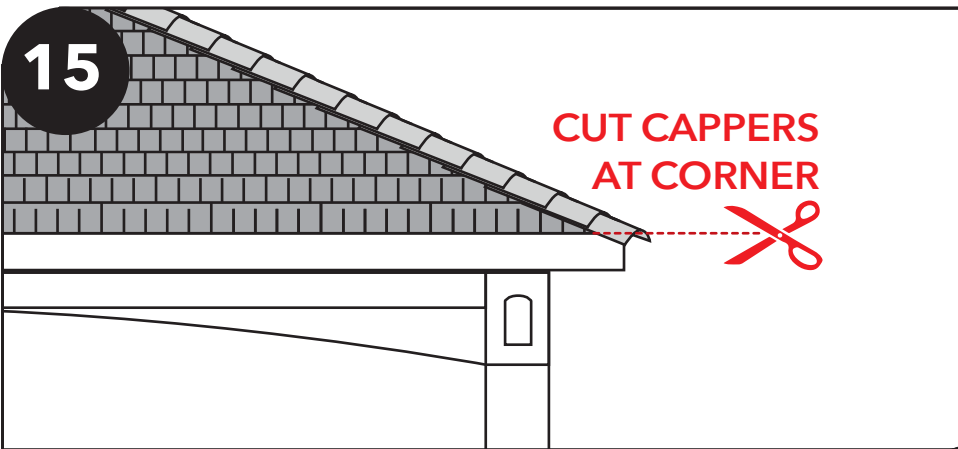
14



15

CUT CAPPERS  
AT CORNER

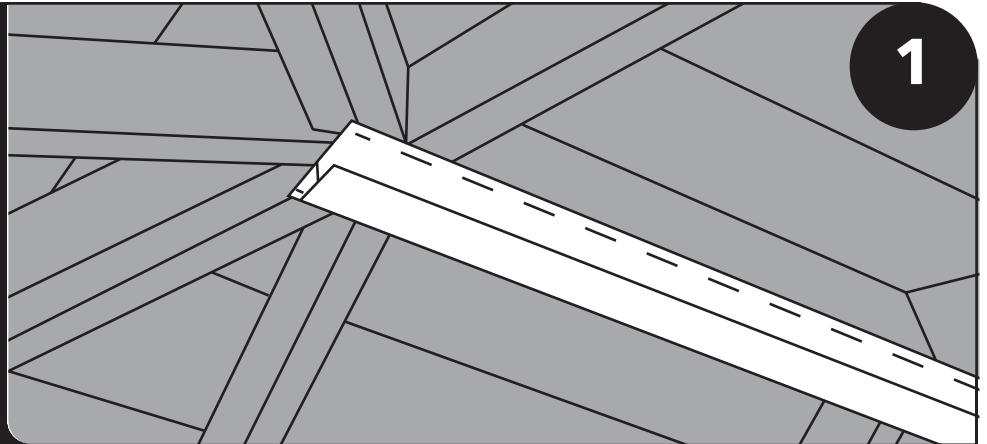
Trim the bottom edges using a shingle scissor or a utility knife.



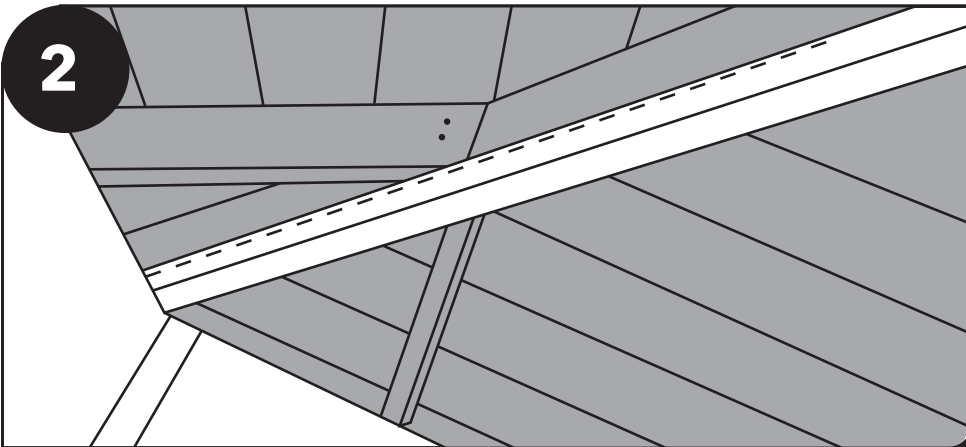
# Ceiling Option 1: Installing An Interior Vinyl Ceiling

Install T Channel centered on ridge pole, using 3/4" nails, nailing every 16". Begin at ends and work inward.

**Note: If you have a square pavilion, skip this step.**

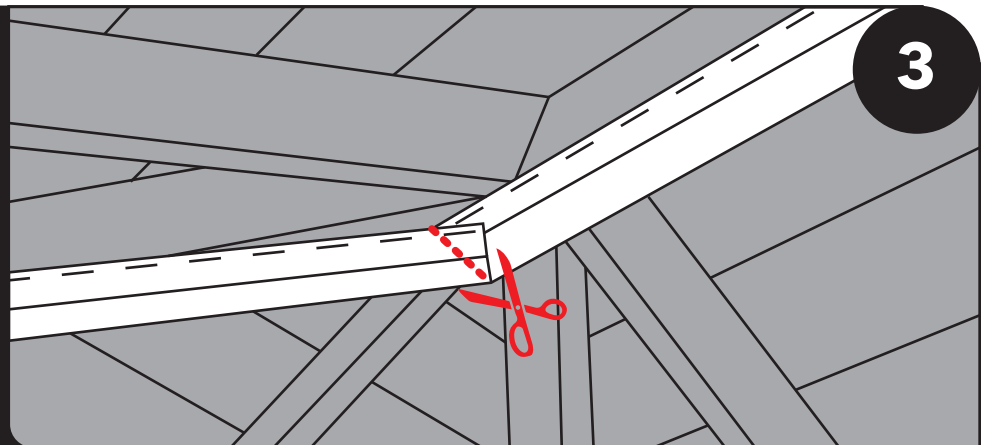


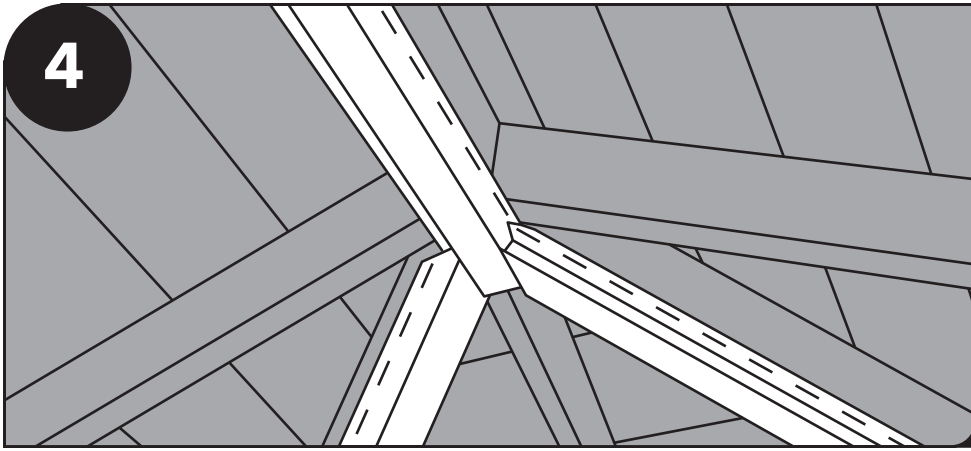
2



Install T Channel on hip rafters. Place lower end first, fitting the T Channel where hip rafter meets the plate.

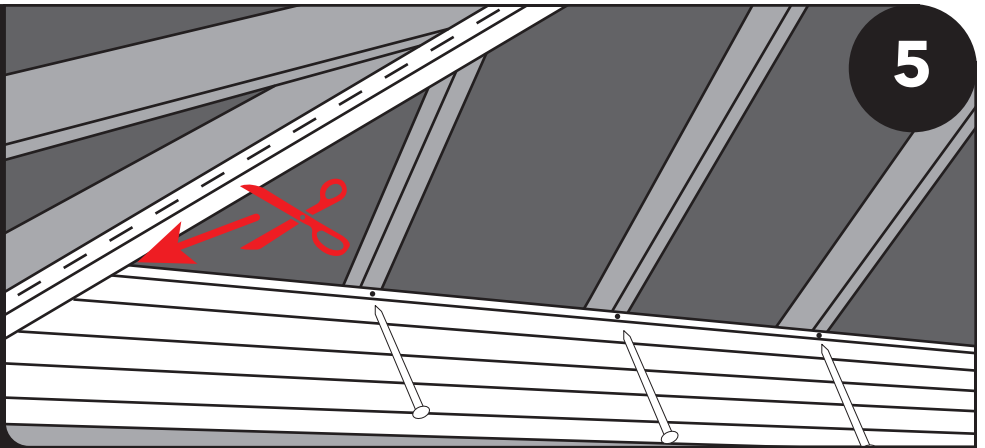
T Channel may be longer than space provided. Hold longer end against the ridge pole T Channel and mark appropriate angle then cut to size. Center on the hip rafter and fasten, using 3/4" nails, nailing every 16". Begin at the ends and work inward.





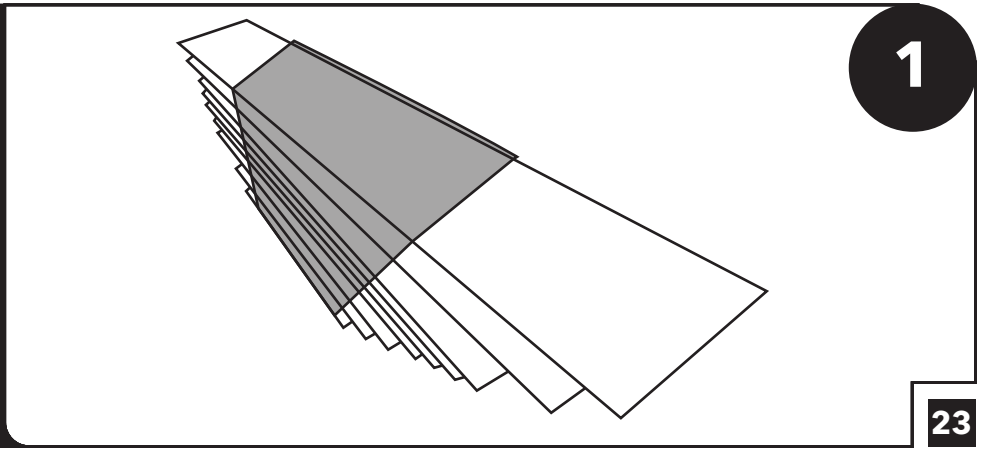
Complete Step 3 on all hip rafters.

Install first piece of vinyl ceiling. If piece is longer than provided space, mark appropriate angle and cut accordingly. Be sure to measure twice before cutting to reduce gaps. Nail 3/4" nails at each rafter. Interlock next piece and repeat last step working upward.

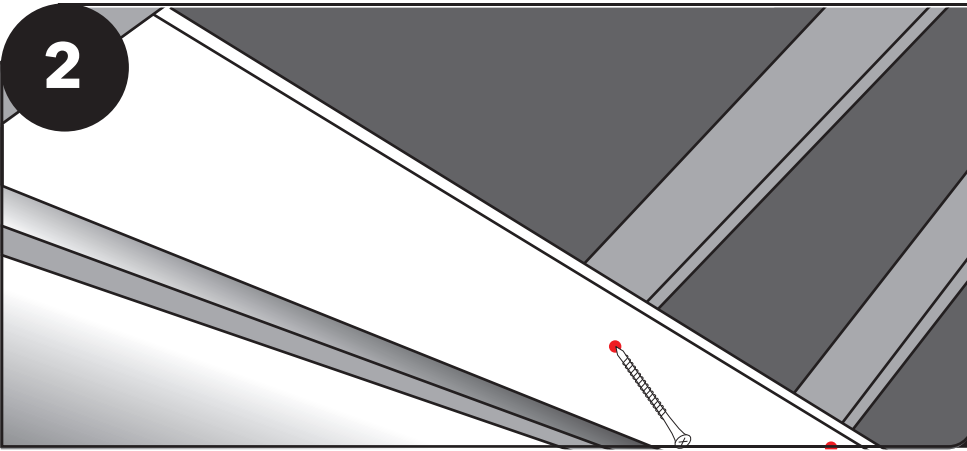


## Ceiling Option 2: Installing An Interior Wood Ceiling

Locate the ceiling boards that are wrapped together. They will be wrapped in order--smallest to largest.



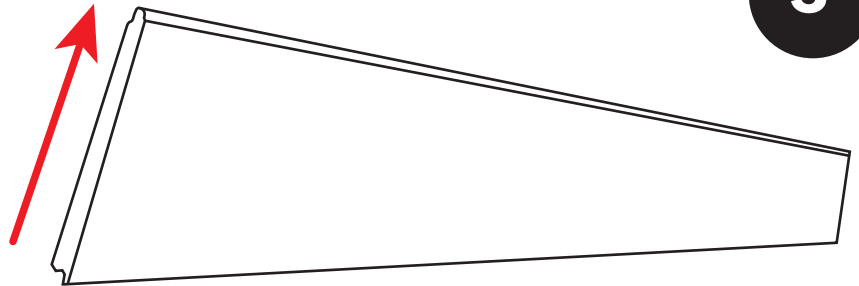
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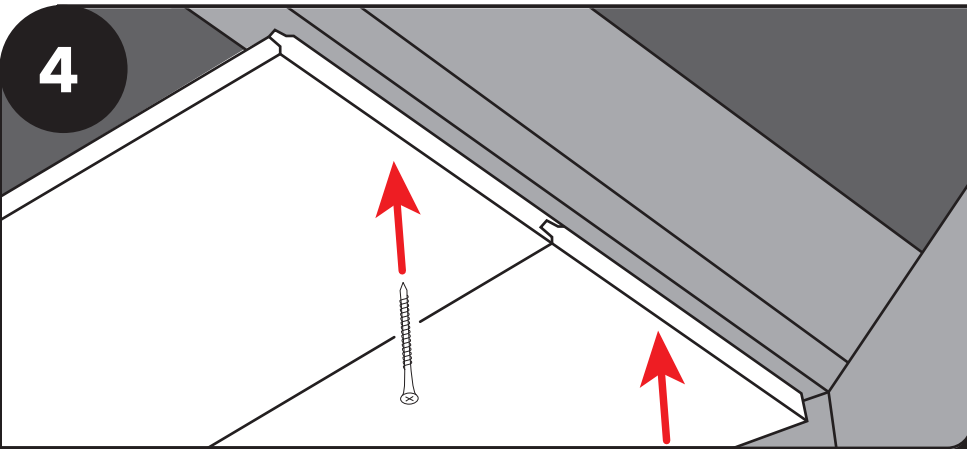
Using the largest piece start at the bottom and work upward.  
**Note: The first piece will have an angled side and a tongue side. Fasten the board with 1 1/2" screws at each rafter.**

**Note: Be sure that the tongue of the board is facing upward, so the next board can connect to the last.**

3



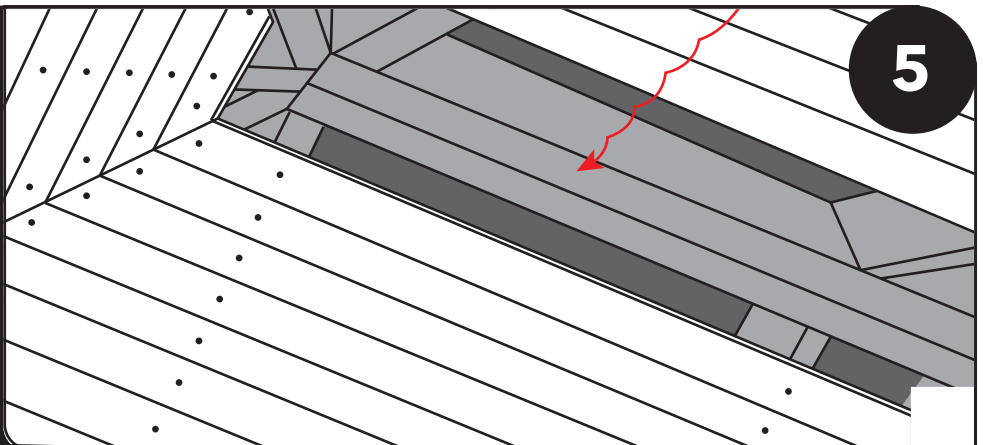
4



Place the groove of the next board into the tongue of the last board. Make sure boards are flush with no gaps before continuing on. Fasten board to each rafter.

Complete steps 2-4 for all sides of the pavilion for all but the last piece. Hold the last piece in place and mark where end needs to be cut. Then cut top pieces and screw them into place.

5





6



**VIEW FROM INSIDE  
PAVILION LOOKING UP**

Next, install the four 1"x3" hip rafter trim pieces. Fasten with three 2 1/2" screws. Place one screw at the bottom, one in the middle, and one at the top.

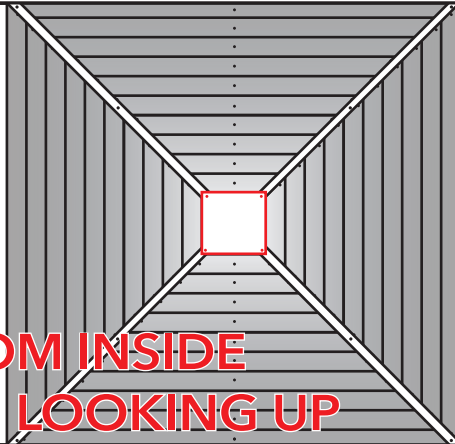
You are now ready to install the 1"x3" ridge pole trim piece. Place a 2 1/2" screw at the end, middle, and other end.

7



**VIEW FROM INSIDE  
PAVILION LOOKING UP**

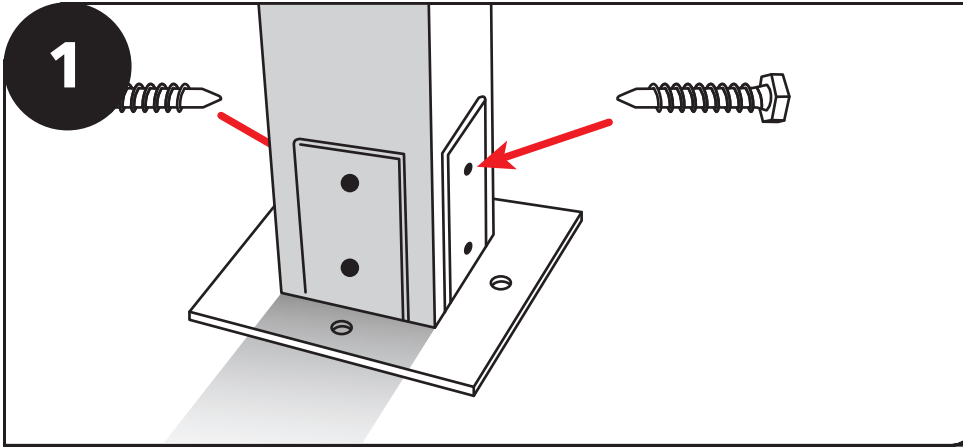
8



**VIEW FROM INSIDE  
PAVILION LOOKING UP**

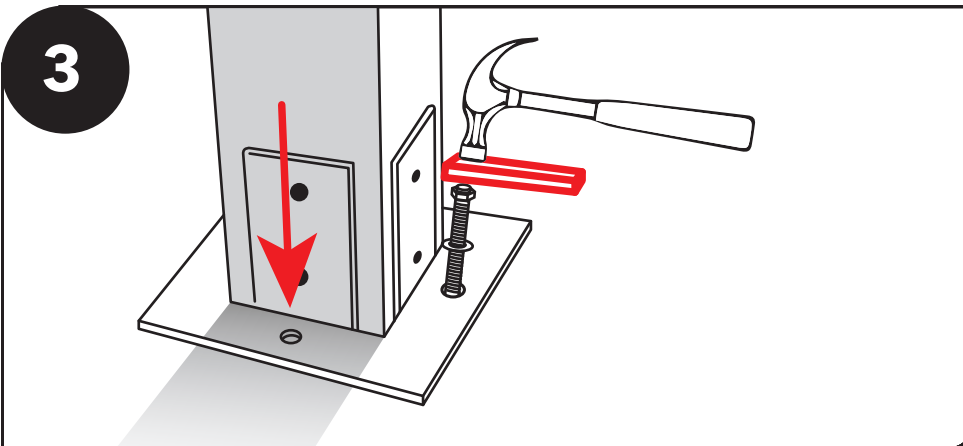
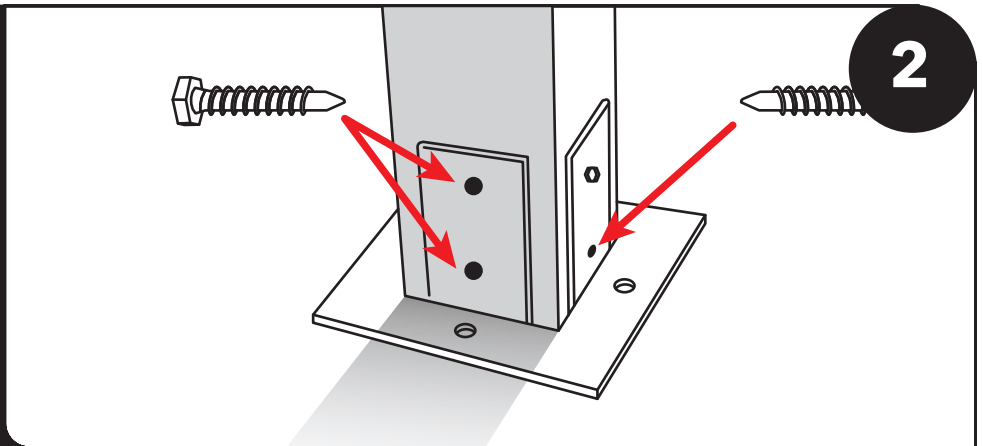
**Note:** If you purchase a square pavilion, a square insert will be placed into the compression ring. The trimmed side will then be fastened to the ceiling with four 2 1/2" screws, one per side.

# Heavy Duty Anchors for High Wind



After placing post bases on from step 9, slide HD high wind bracket onto the bottom of the post. Screw two 3/8"x3" hex lags into the pre-drilled holes on opposite sides of the bracket. Repeat on all posts. Continue on with regular instructions, starting at step 10.

Screw the remaining six 3/8" X 3" hex lags into each post, using the pre-drilled holes. Repeat with all posts.



Remove dust from hole. Next, screw the nut and washer on about 1/8" below the top of the bolt. Insert the wedge anchor bolt into the hole. Tap the bolt into the ground using a piece of wood as a buffer to protect the threads and nut. Repeat on remaining 3 sides of the post then repeat on all other posts.

