WOOD GABLE ROOF PAVILION ASSEMBLY MANUAL

Shown above is an Open Gable Pavilion

Thank you for your purchase of a new Open Gable 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 two 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. "Eaves side" references the long side and "gable side" references the short side (See front page image). 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

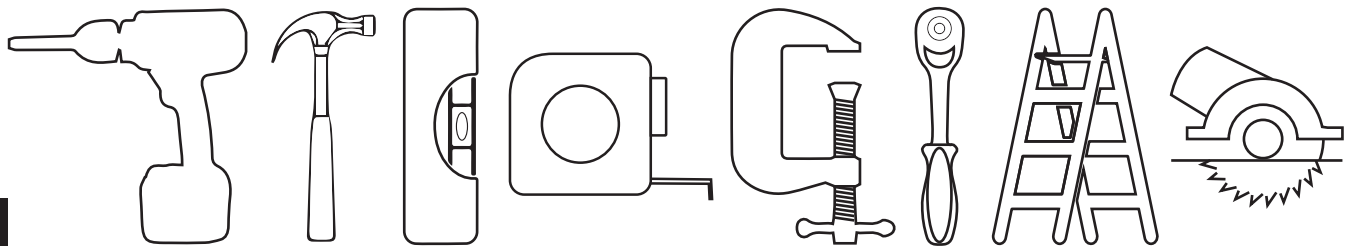
It is important that the site is properly prepared before beginning assembly. It is imperative that the site be level. There are a few choices when installing this structure, the two most common are to anchor the posts to concrete pad/wood decking or attaching to a concrete footer or two Sonotubes. Sinking 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

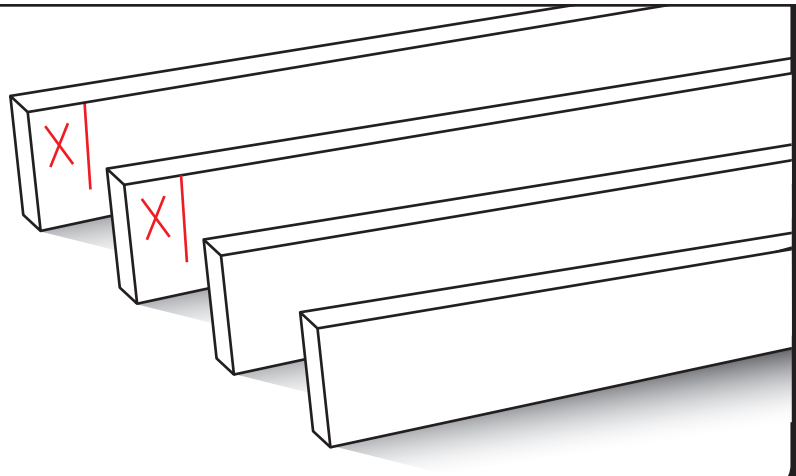
Hammer drill, hammer, level, tape measure, C clamps, socket set, ladder, circular saw



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.

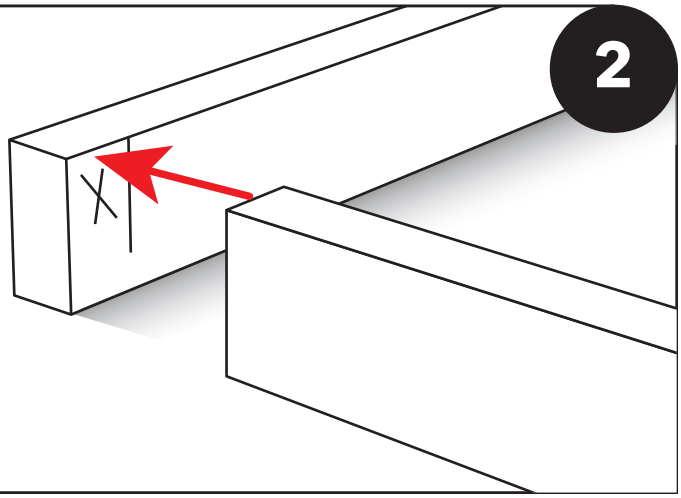
1



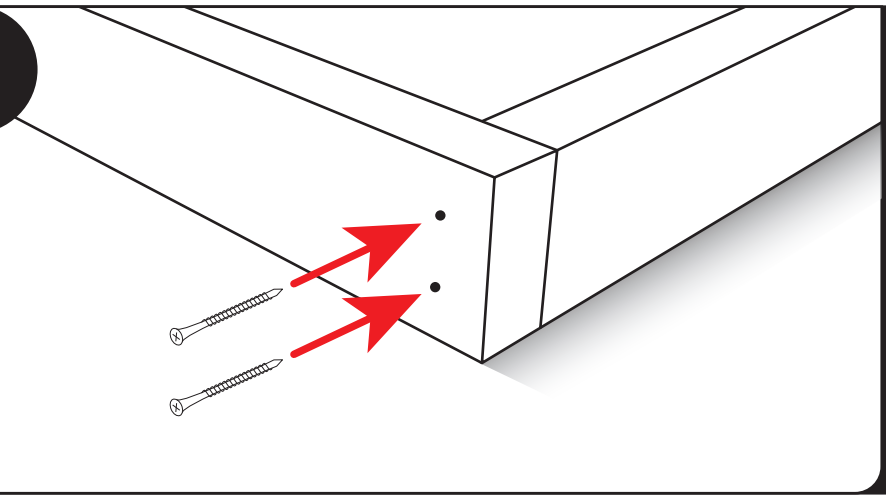
The Pavilion kit includes a wooden template that will be used to mark the post locations. Notice that two of the 2x4 boards have a marking near the ends. Building a box will reveal the outside corners of the posts when properly placed.

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

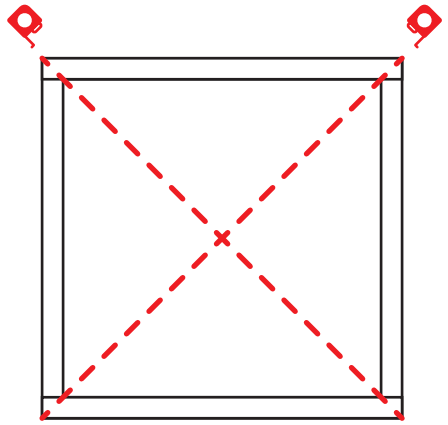


3



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

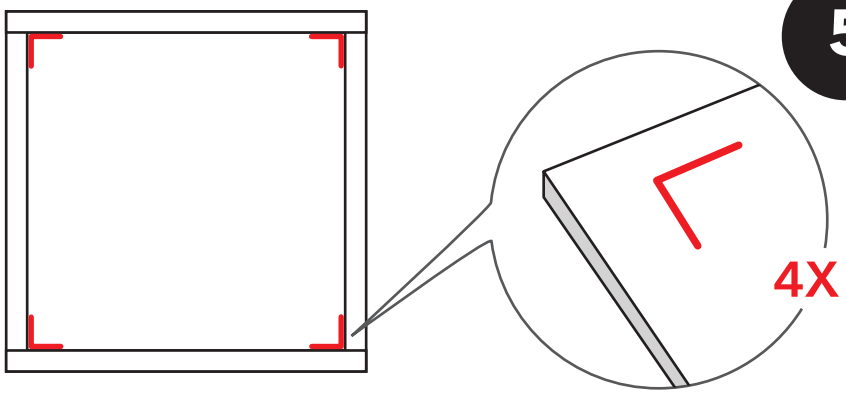
4



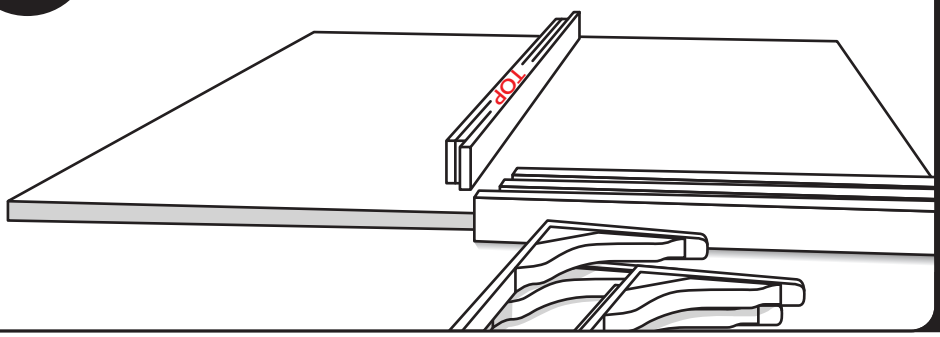
Once the template is in position, square the template. Do this by measuring diagonally from one corner to its opposite corner, then measure diagonally between the other two corners. These two dimensions **MUST** be the same. Adjust the template until the diagonal measurements are identical.

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



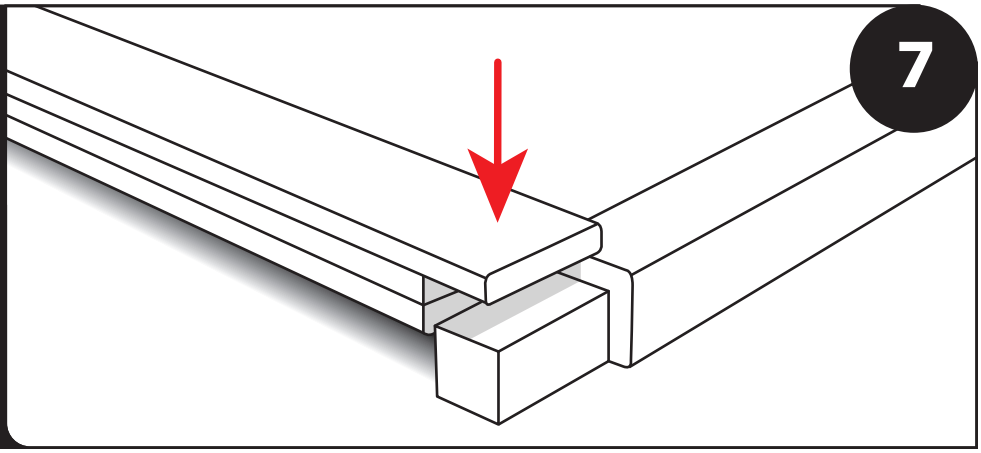
6



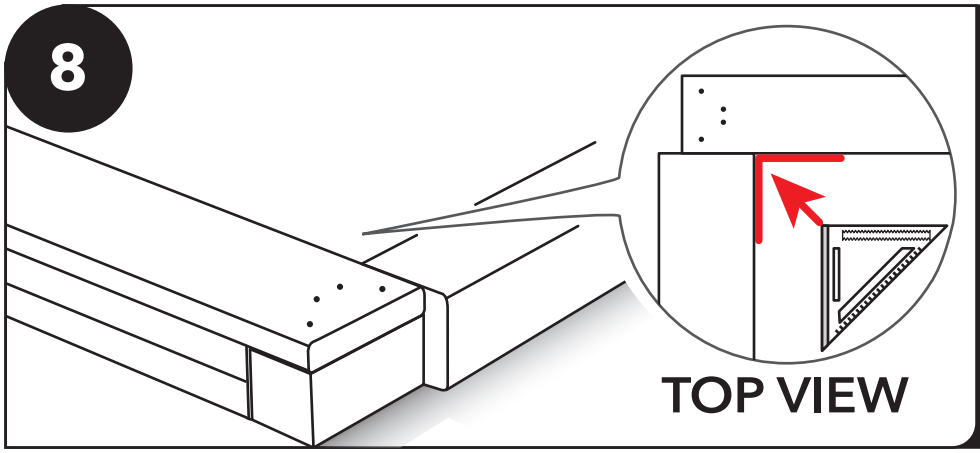
Begin by assembling the frame of the Pavilion structure. Please note that the Pavilion kit includes some preassembled pieces. **NOTE: If you ordered an electrical package, see page 23 for installation instructions before continuing.**

All of the posts will have two sides notched. Turn the notches on the post to the outside to accept the headers.

7



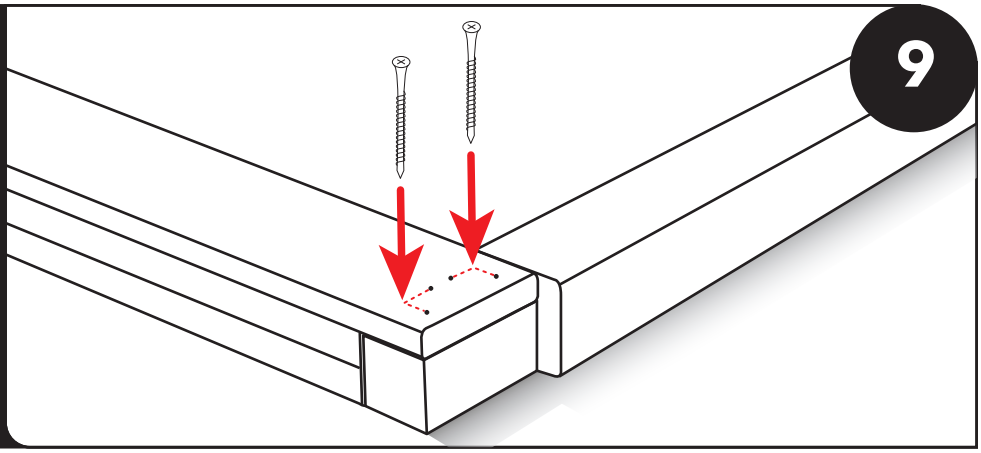
8



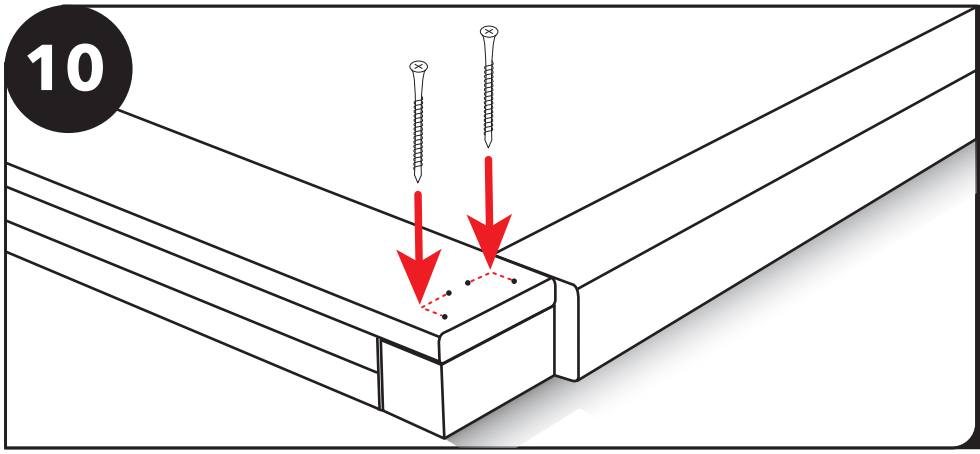
Assemble two posts and a beam on the ground, starting with a longer beam first. Make sure your post is square with the beam.

Attach the beam to the post with two 3 1/2" screws. Do not use the pre-drilled holes on the beam. Those will be used in step 18.

9



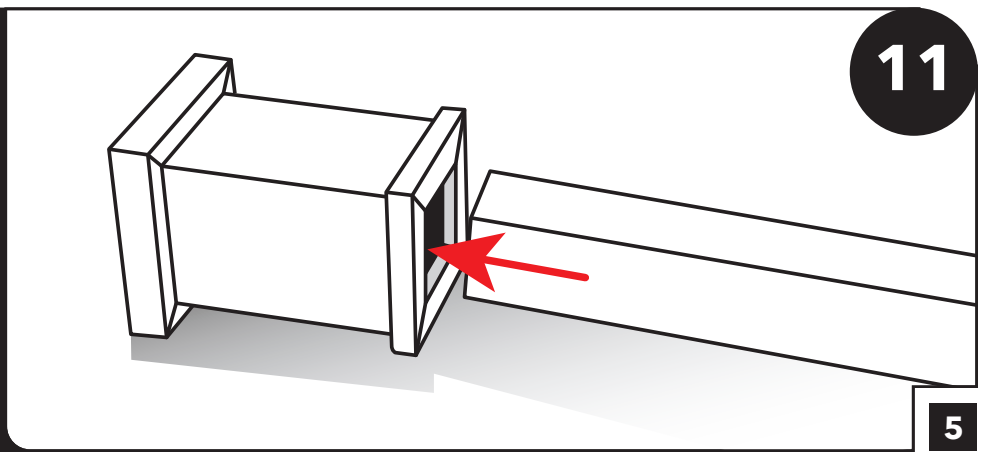
10



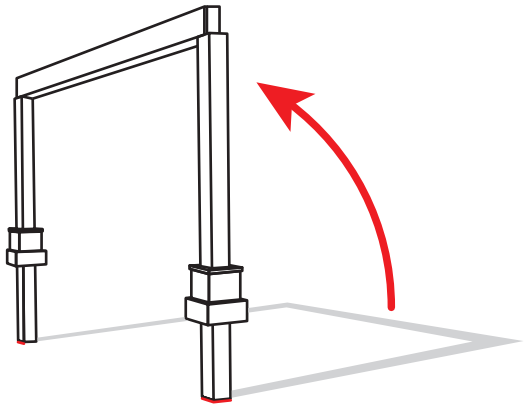
Repeat steps 7, 8, and 9 using the other long beam and two posts.

Slide your bottom post base on the post. Be sure to slide the bases up the post to make room for completing steps 12-22. **NOTE: For HD High Wind brackets see bracket appendices on page 21 (Step 1) before moving on to step 12.**

11



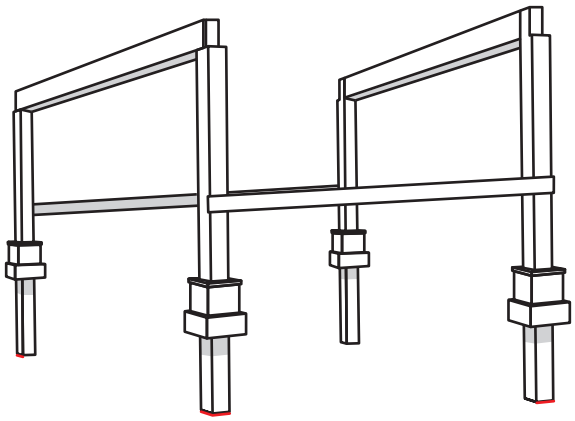
12



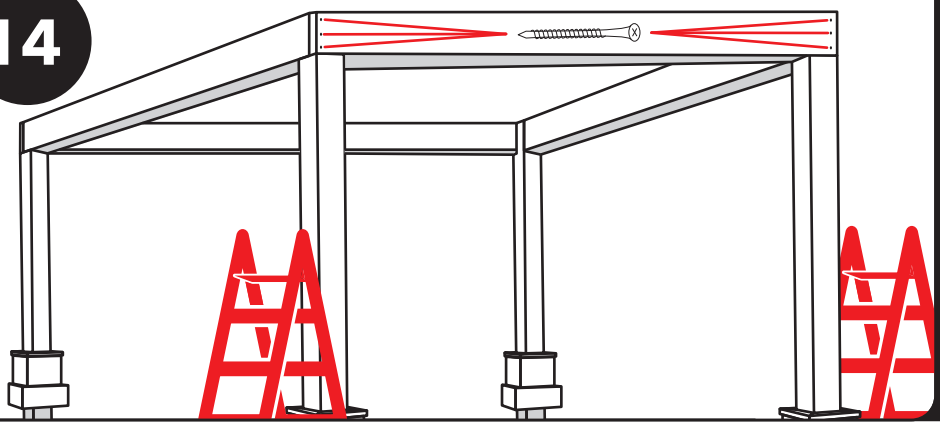
Raise the connected posts and beam. Be sure to align the posts to the marks you made using the template. You might need someone to hold it as you get the other one.

Once all four posts are positioned at the marks you made using the template, screw the 2x4 template to the posts. Anchor one side to the other in order to keep it from falling over. (If you have enough people to hold the posts, you can forgo attaching the template.)

13



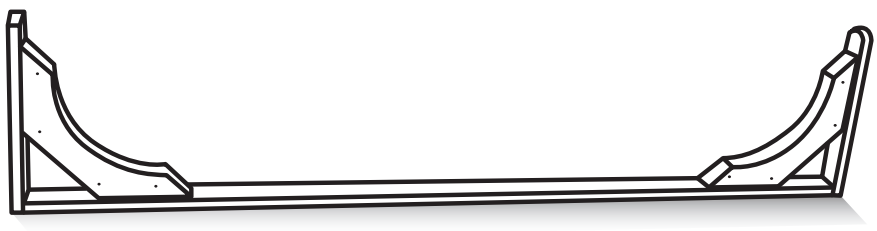
14



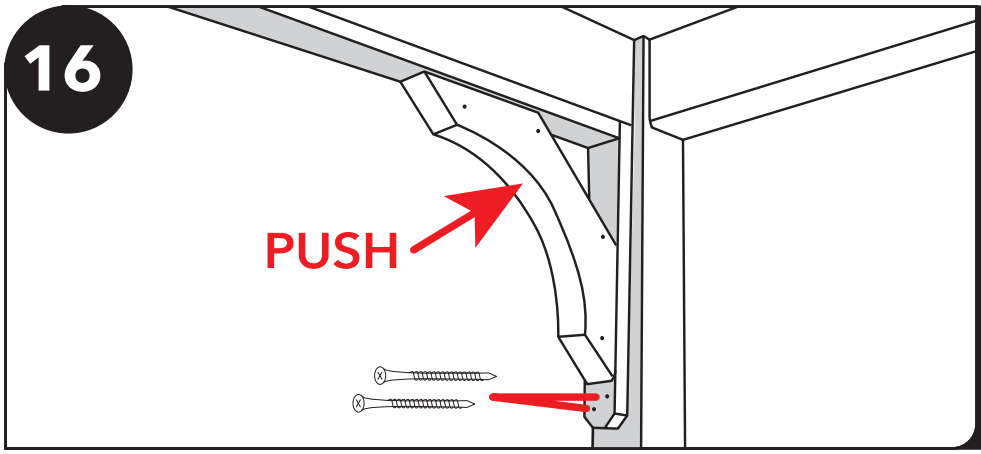
Set one of your short beams in place. Attach with three 3 1/2" screws through the pre-drilled holes and into the ends of the other beams. Repeat this on the opposite side with the last remaining beam.

Locate all 4 of your top rails. It does not matter witch one you put in first.

15



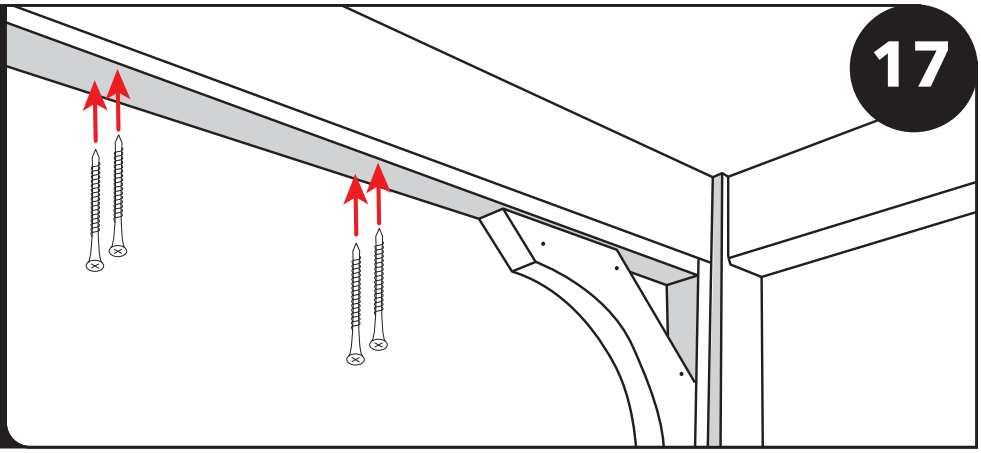
16



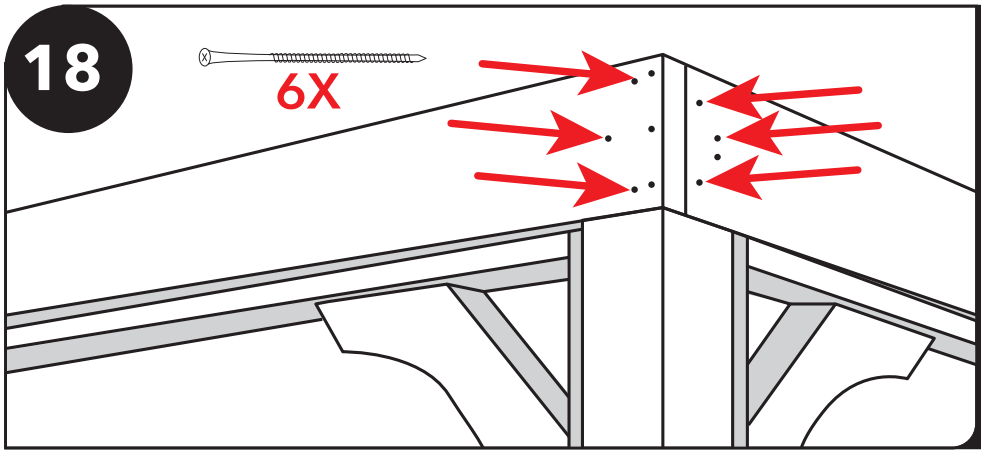
Push rail up against the bottom of the header. Put in center of post. Fasten to post with four 2 1/2" screws on both sides. Make sure the screws on the braces are turned in toward the inside of the building.

17

Fasten rail to bottom of the header with two 2 1/2" screws approximately every 16". Do that with all four sides.



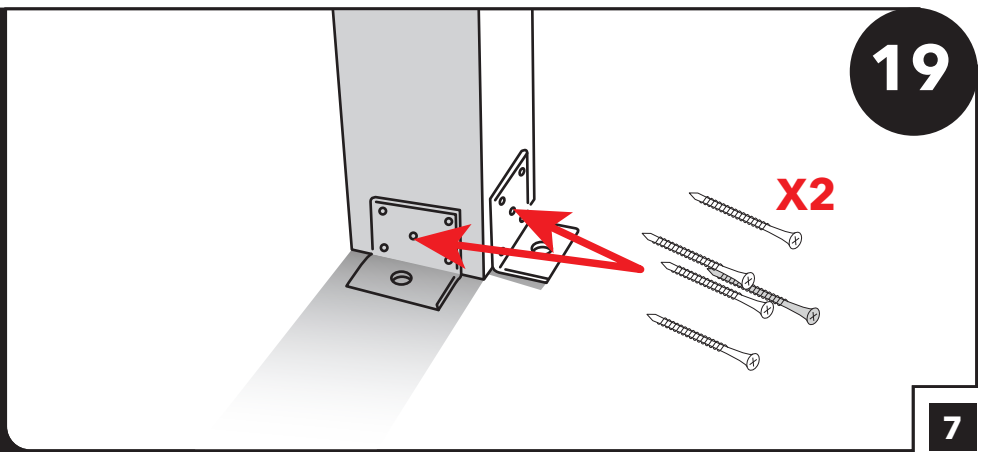
18



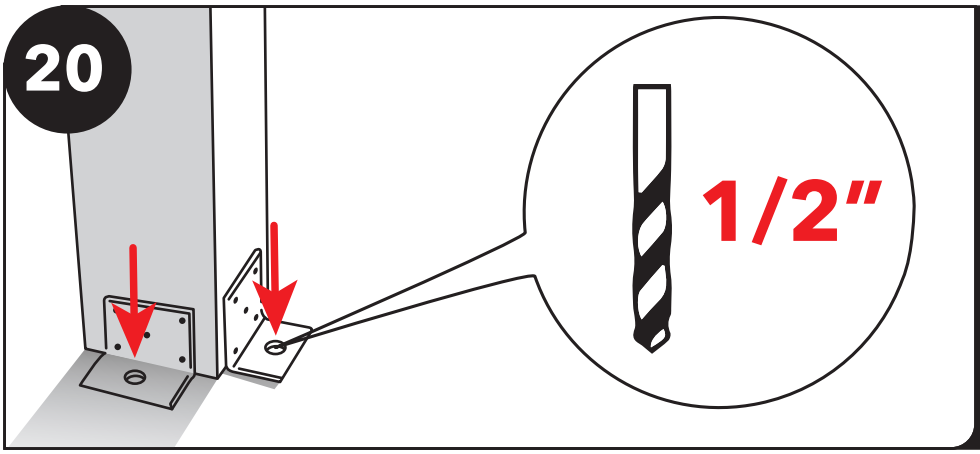
Locate 24 8" GRK screws in the hardware box (if you have a standard 4 post structure). Those go in the pre-drilled holes at the corners of the beams. (6 per corner)

19

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 21 (Step 2.)**



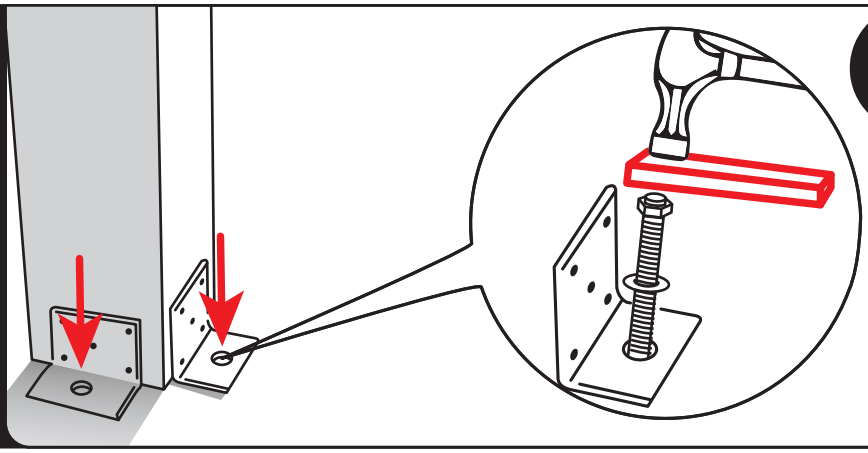
20



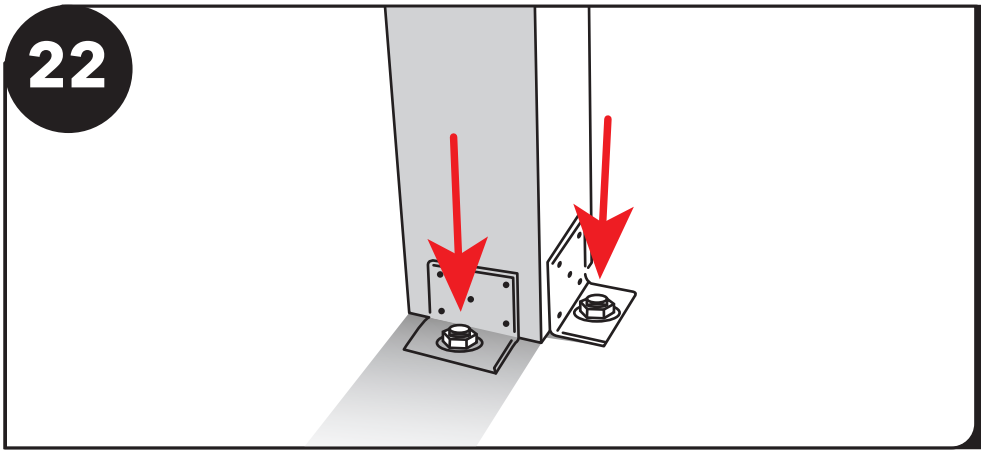
When all posts have two L brackets on, use a drill with 1/2" masonry bit to drill down about 1/2" farther than length of wedge anchor.

Before inserting the bolt, make sure dust is removed from hole. Then screw the nut and washer are 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.

21



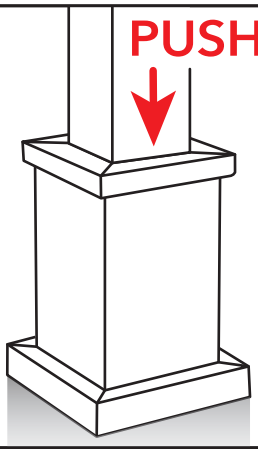
22



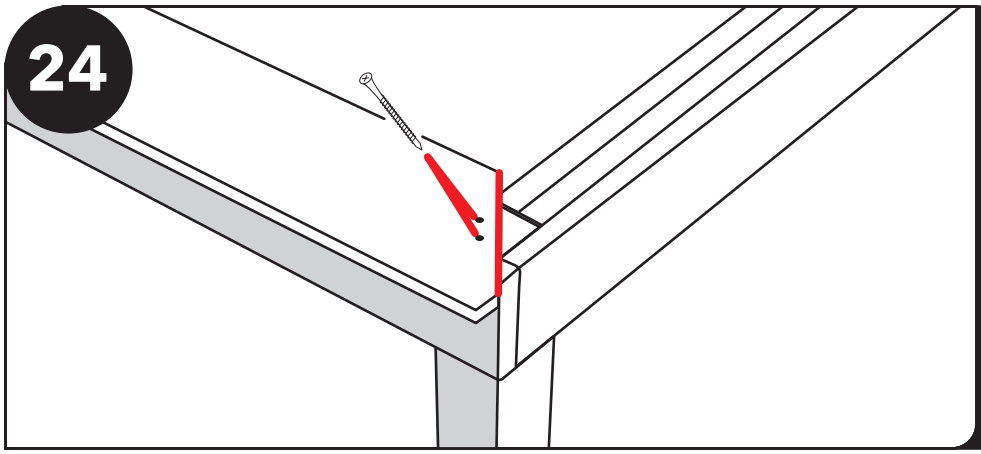
Once the wedge anchor is down against the bracket use a wrench and tighten it. Do that with all the anchors.

When all of the nuts have been tightened down and the posts are securely mounted to the concrete slab, slide the post trim down into place. **NOTE: If you ordered an electrical package complete step 6 of assembly instructions on page 24.**

23



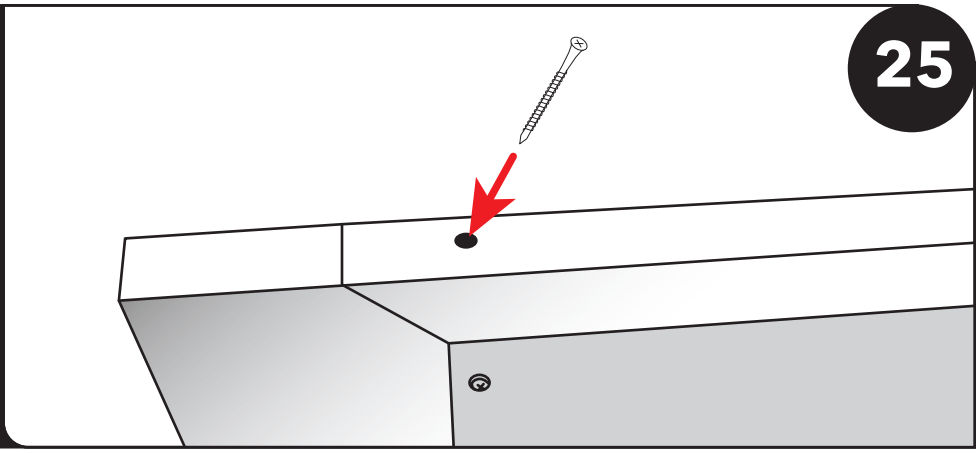
24



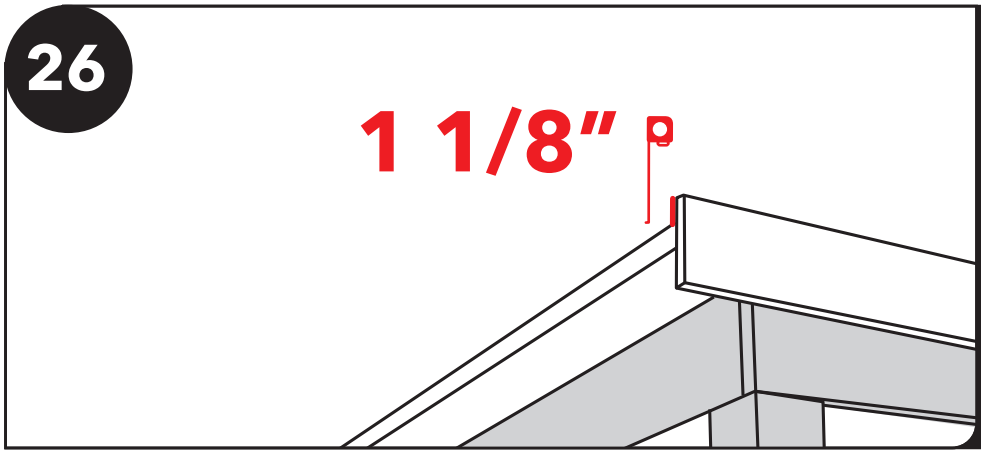
Install the top plates. Position one 2x12 on the eaves side of the pavilion. Center the plate so that both ends fall at the same place on the top of the post, visually splitting the post-top from corner to corner. Be sure the overhang measurement matches on both ends. Use two 3 1/2" screws to fasten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

Position the 2x8 plate against the 2x12. (It is important that the top plate boards equally overhang the structure to accurately center the roof.) Fasten the 2x8 to the 2x12 plate at the corner 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.

25



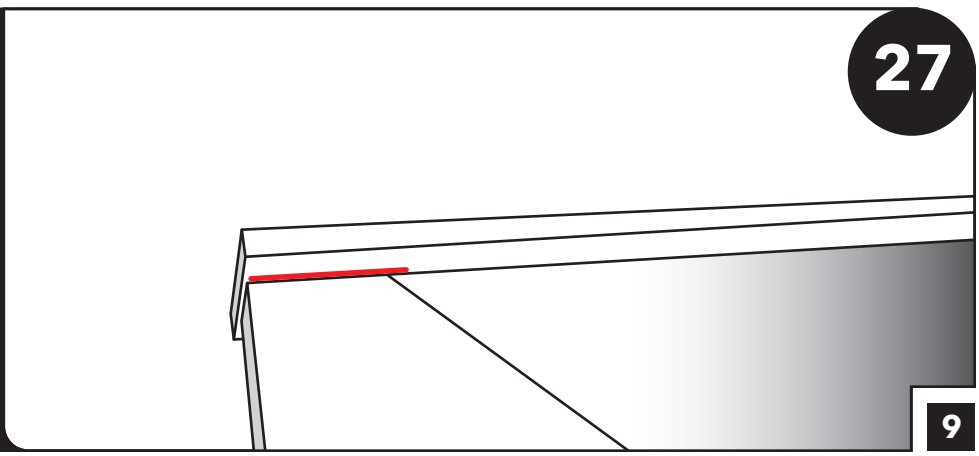
26



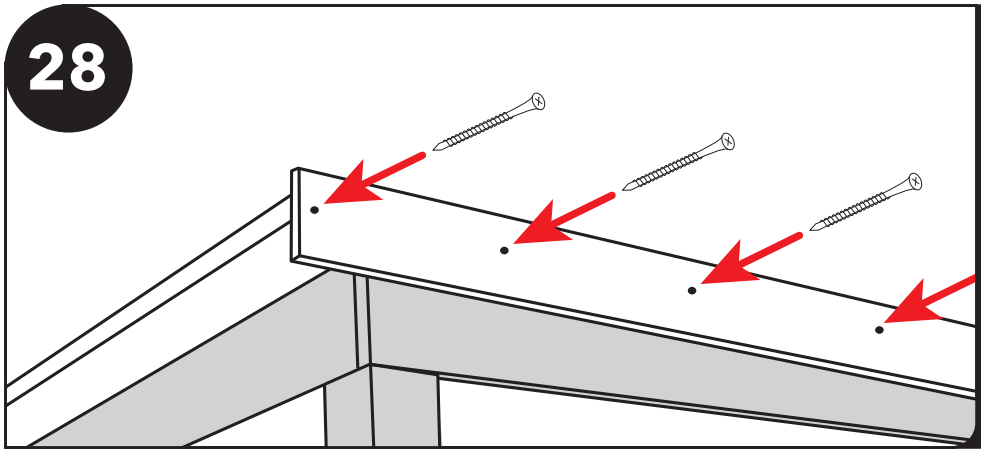
Install the fascia boards. The fascia will need to sit 1 1/8" (1 7/8" with metal roof) above the top of the top plate boards. Measure up 1 1/8" on the board and make a mark. Do this toward each inside end of each fascia board, and install the short sides first.

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.

27



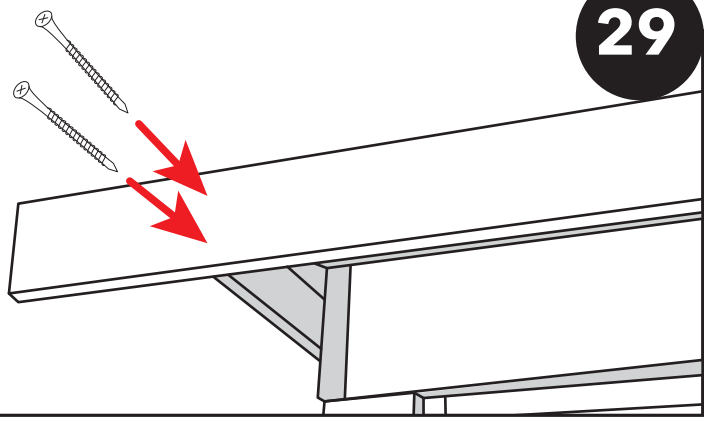
28



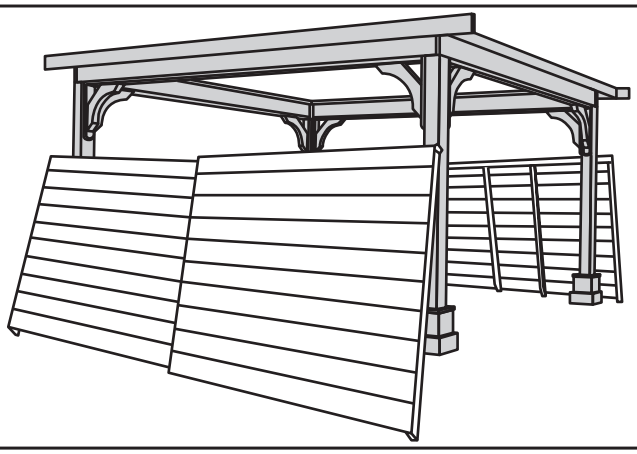
Next, drive 2 1/2" screws every 16" along the entire length of the fascia board. Follow these same steps with the other gable-side fascia board as well.

The eaves-side fascia boards will overlap the gable-sides and will extend out past them 11" (12" past the top plate). Align the premarked line with the end of the gable-side fascia board ends. Attach the eaves-side fascia to the top plate just as was done with the gable-sides. The eaves-side fascia will need to be connected to the gable-side fascia boards with 2 1/2" screws. Follow this process until all fascia boards are installed.

29



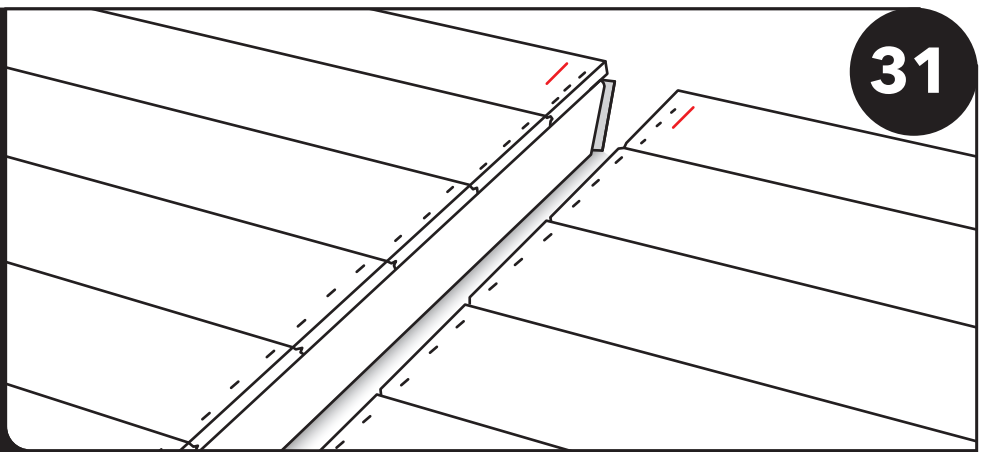
30



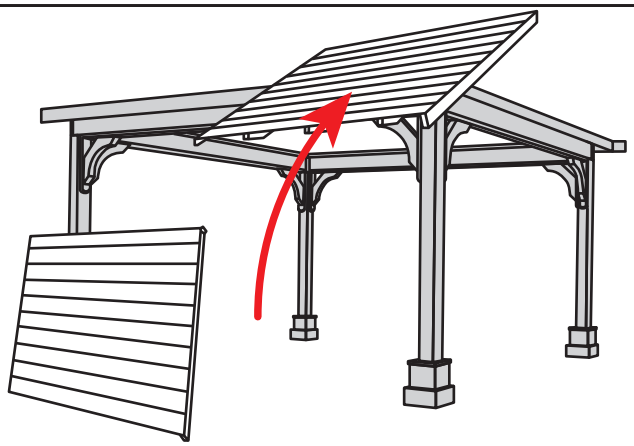
When all fascia boards are installed, set the four roof panels on the outside of the building. (You might need 3 or 4 helpers for this step.)

Set the roofing sections in place so the matching numbers rest against each other. The roofing sections will all be marked in the top corner with numbers.

31



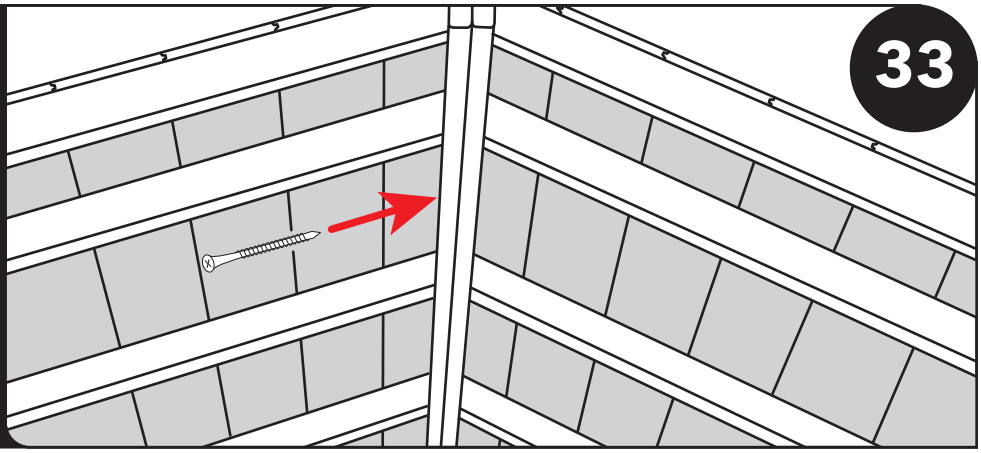
32



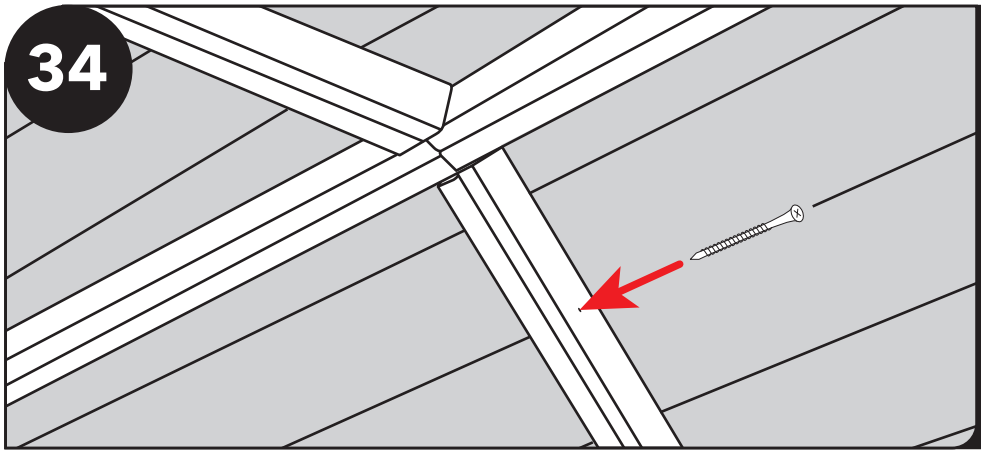
Lift the first section into place, making sure the end is resting on the top plate and against the fascia board. The 12" overhang section should be against the inside of the top plate and flush with the outside of the fascia board as shown. Use a prop board to hold it in place. (Prop board not included)

Set the first roofing section for the other side in place as was done for the first section. These two sections can now rest against each other on their ridge boards. Now, connect these two ridge boards together with one 2 1/2" screw, staggered every 16" apart. Make sure the ends of panels are flush.

33



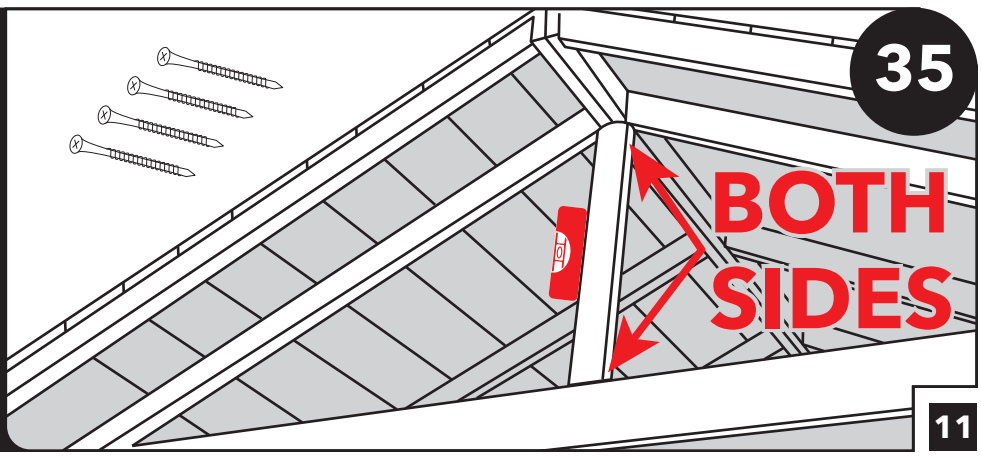
34



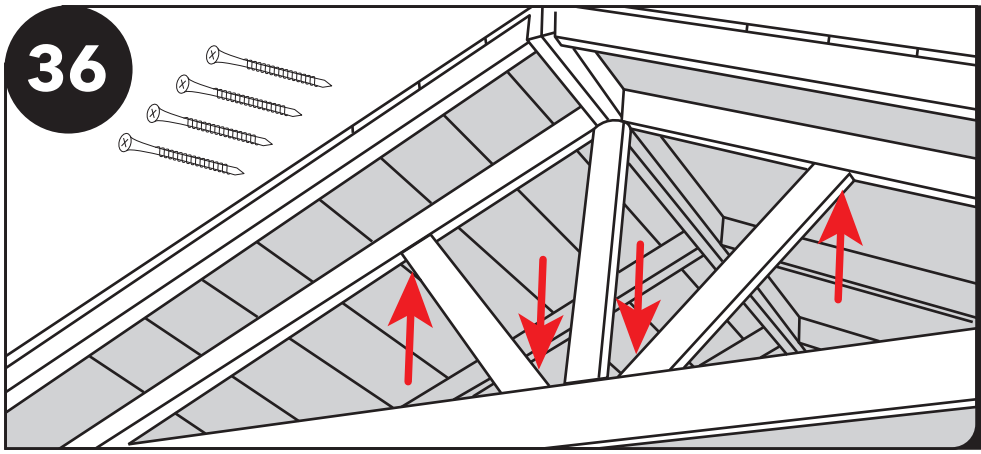
Do the same process with the remaining sections until all roofing sections are in place. Once all sections are in place, connect the inside seams of all opposing sections. Do this by driving 2 1/2" screws every 16" along the seams.

Once all the rafters are connected, install the vertical board of the gable sunburst design. Make sure it is in the center of the building. Fasten with four 2 1/2" screws. Two on top, two on bottom.

35



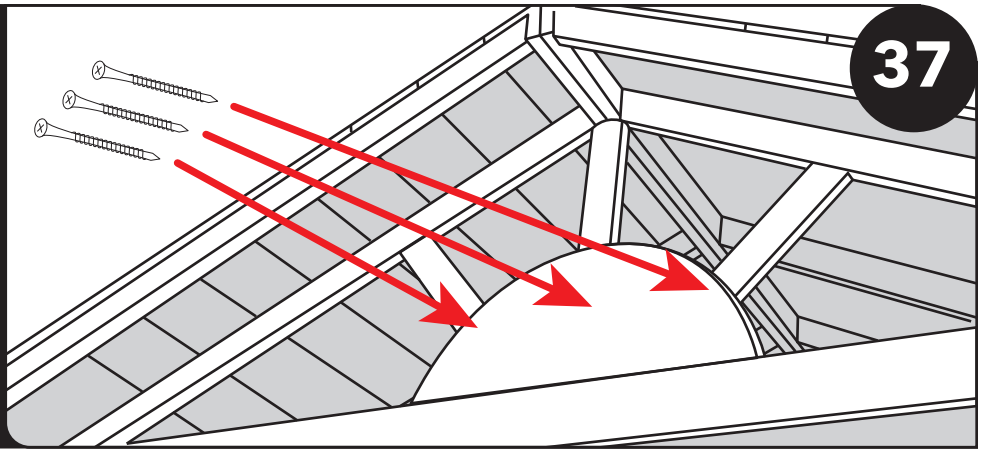
36



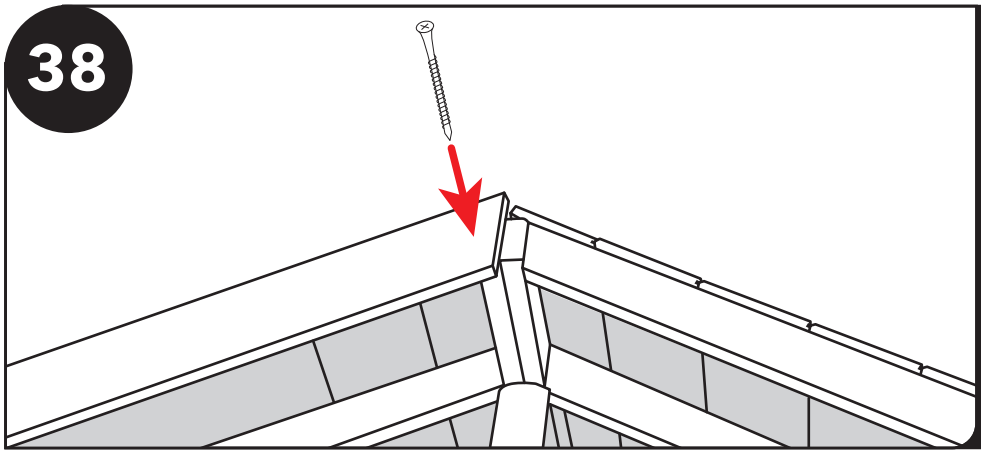
Install the slant pieces. You might have to cut them if they do not fit. Fasten with two 2 1/2" screws per board. (One on the top and one on the bottom)

There will be two different size half-moon trim pieces. The smaller one goes on top of the fascia. The larger one fits on the inside. Fasten the half-moon trim pieces to all three boards with one 1 1/2" screws. Repeat the same process on the inside.

37



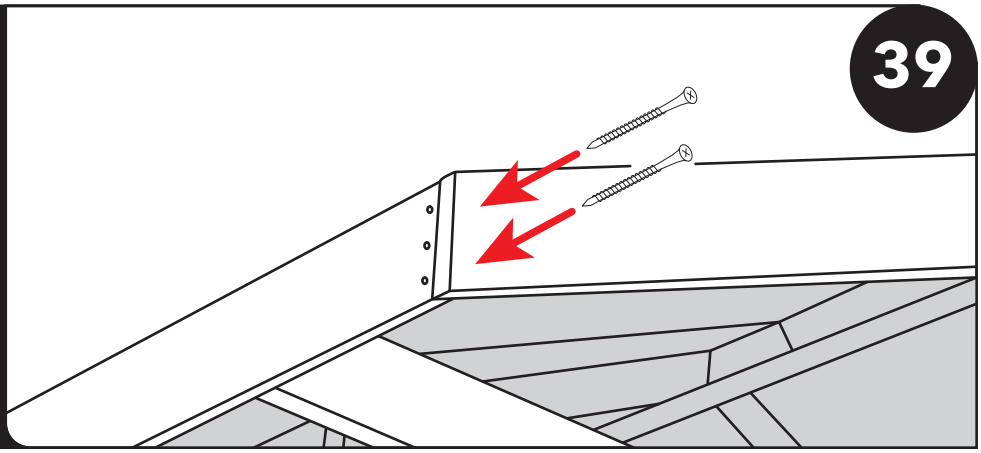
38



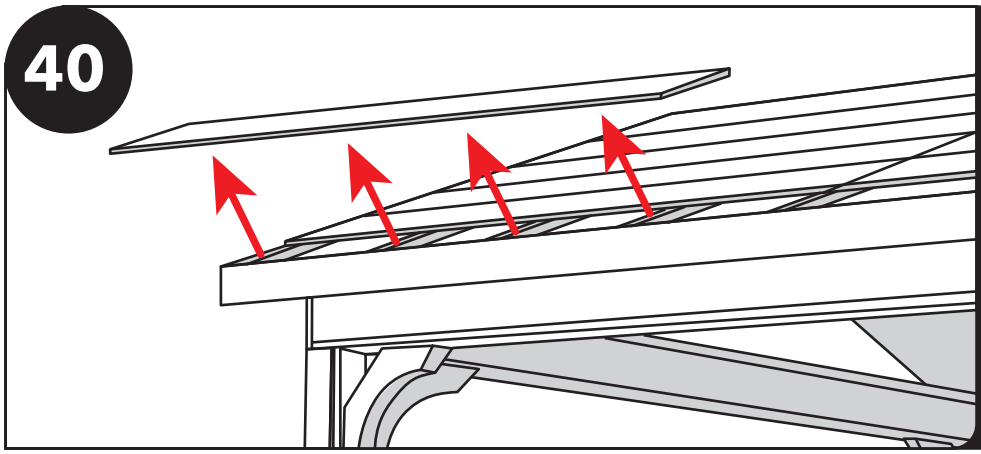
Now you are ready to install gable end fascia. These are the boards that have slant cuts on both ends. It might need to be cut down to size. Keep it flush on top of roof panel and center of ridge beam.

Fasten to the 2x4 rafter. One 2 1/2" screw at top and two at the bottom going into fascia. Then one every 16".

39



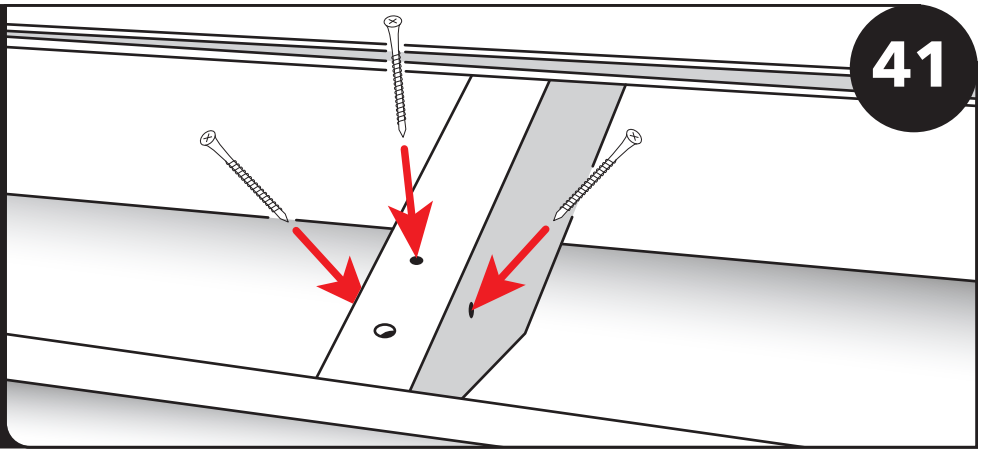
40



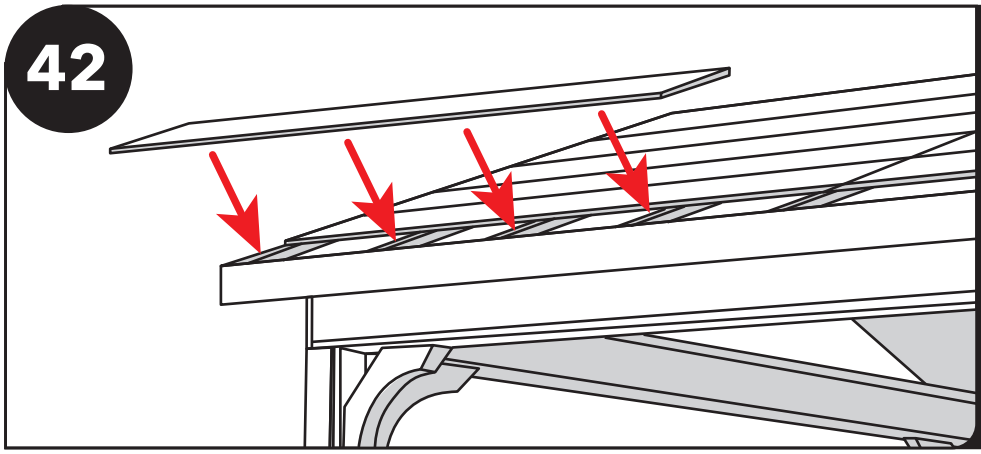
Now you are ready to fasten the rafter to the plate. First take your bottom 1x6 roof decking board off. There should be about two or three screws you need to back out. Make sure your ridge beam does not sag in the center. You might need to put a prop in.

Once you have all the bottom roof decking off, screw each rafter down into plate with one 2 1/2" screw down the center and two 3 1/2" screws angled on the sides.

41



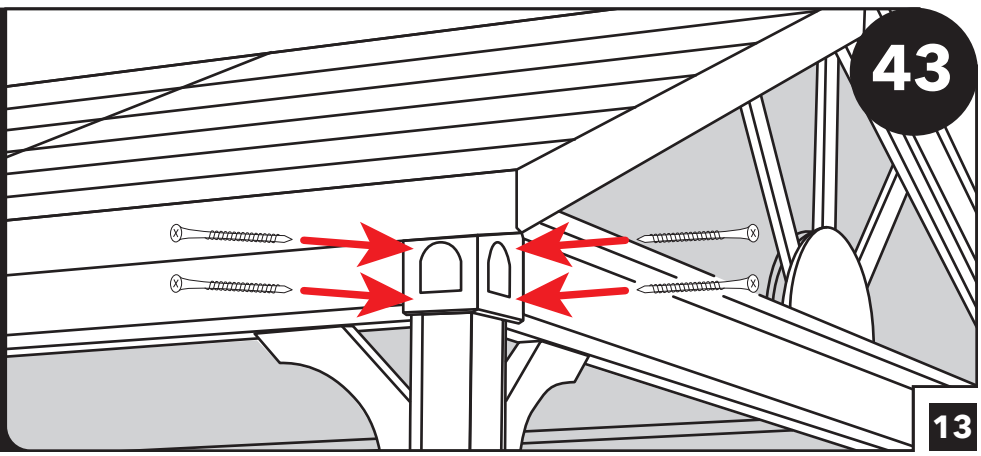
42



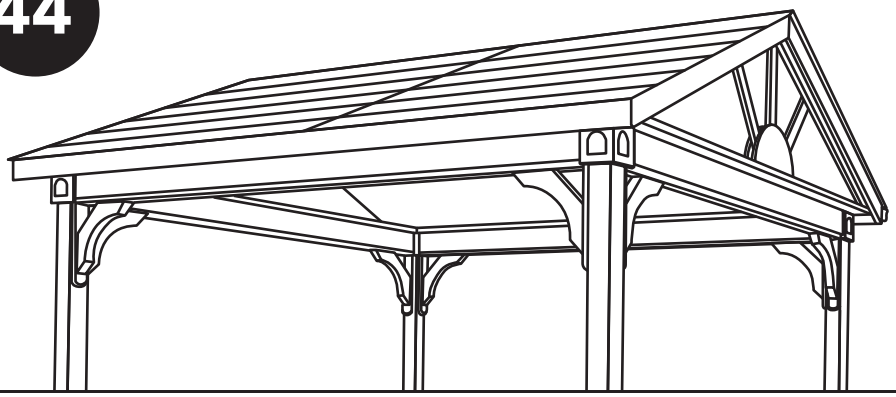
Once you have all the rafters fastened, put your roof decking board on again.

Fasten the corner trim with four 2 1/2" screws.

43



44



You are now ready to install the shingles.

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.

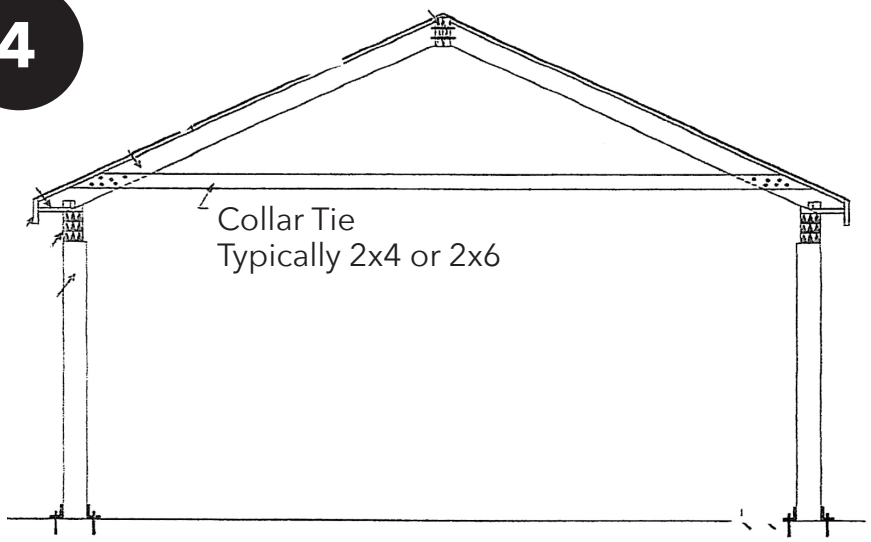
2

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.

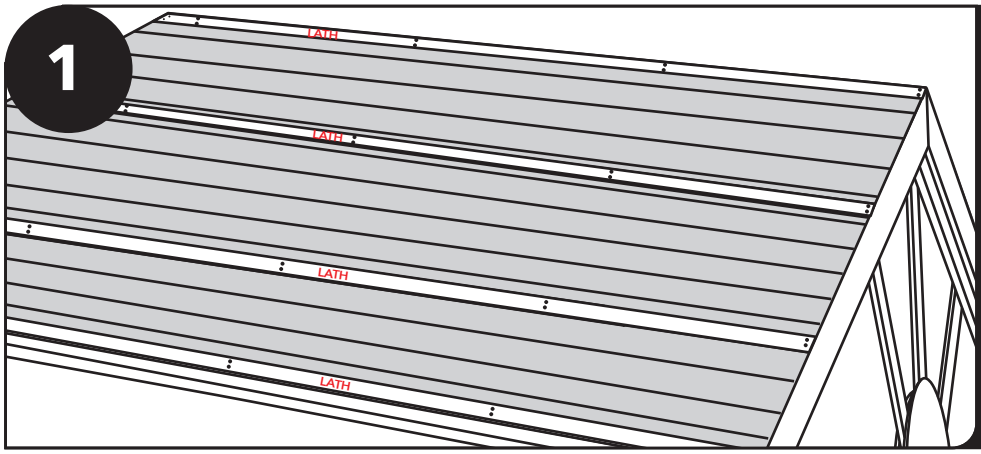
4



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

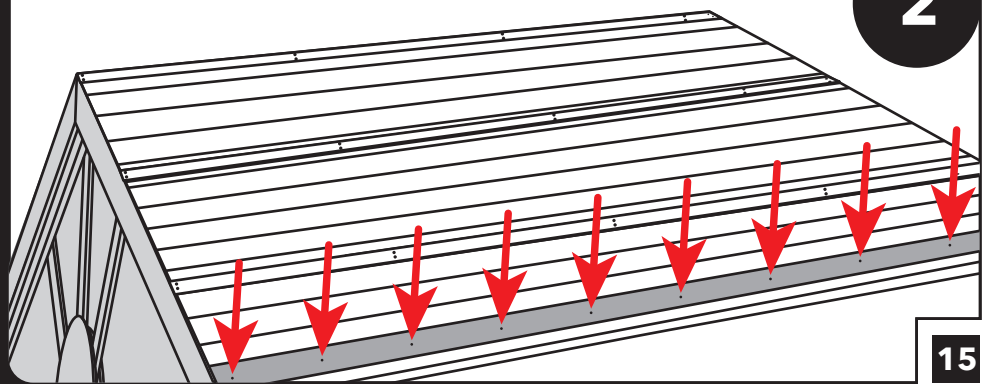
1

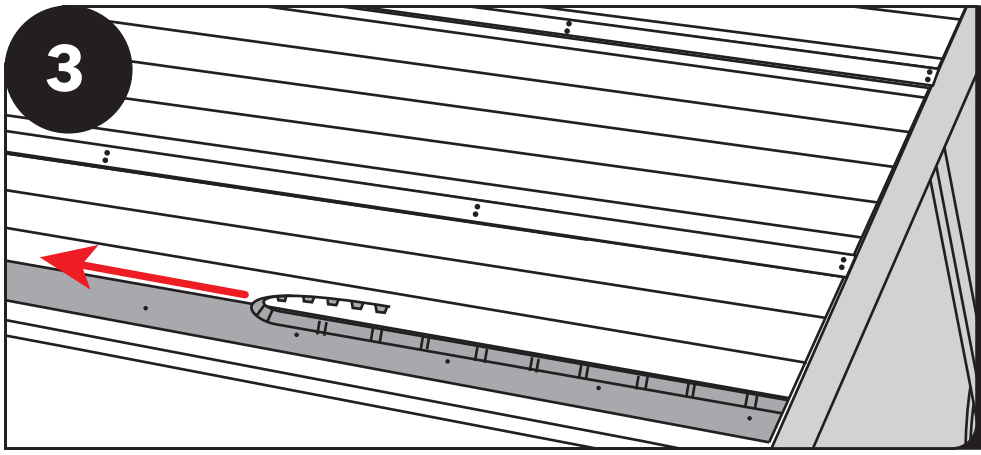


Fasten horizontal "Roof Lath" pieces with two 2" roofing nails at each rafter. Place the first piece of lath directly on top of the lowest decking board. Space each lath board roughly 20-24" apart with the longest piece placed at the bottom and the shortest piece at the top. (Lath boards may need to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

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

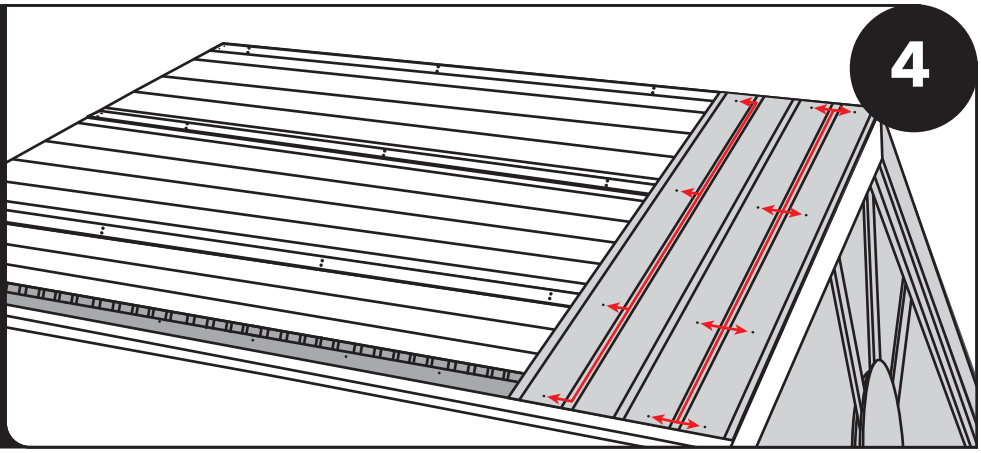
2

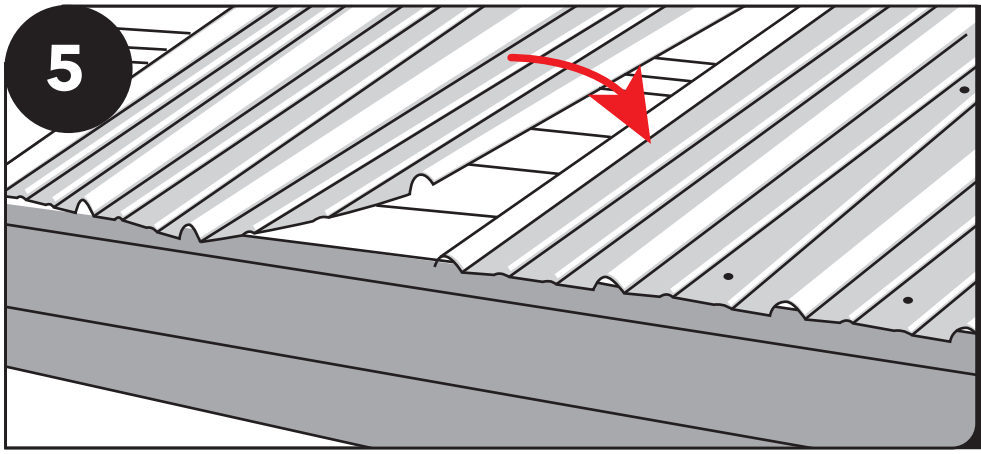




Install the ribbing roughly 1 1/2-2" from the bottom of the drip edge. Do not stretch the ribbing because the grooves of the roof must line up with the ribs.

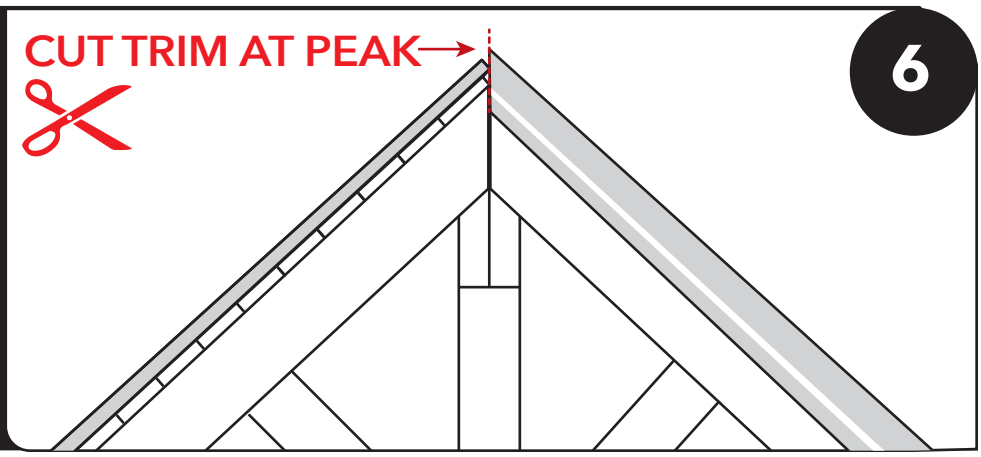
Install the tin, starting at right side and moving left. Ensure the first piece is installed squarely. Keep the bottom of the tin flush with the drip edge. Fasten with 1" screws. The first piece will have 3 screws at every lath.



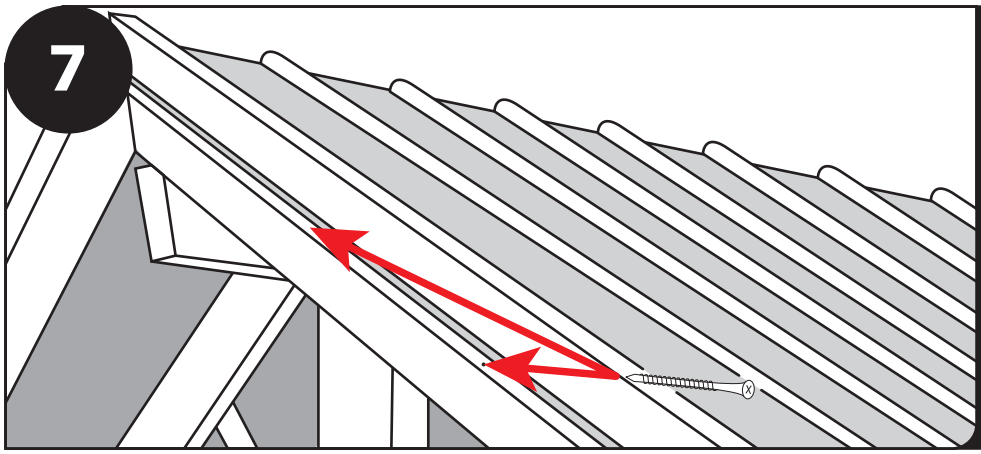


The next piece must properly overlap on the far edge. Last piece may need to be cut to size to be flush with the edge of the fascia.

Once you have all the tin installed, hold the gable end trim in place to mark the upper end of the trim that will need to be cut to meet flush with the other side.



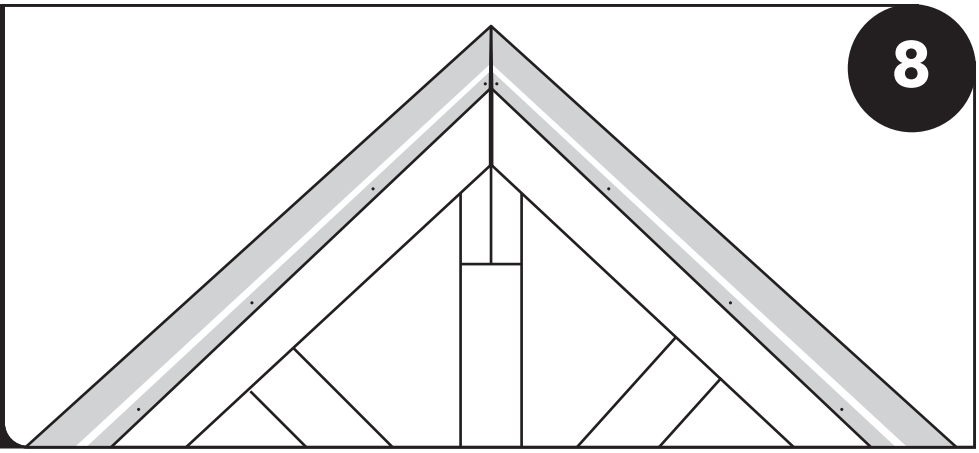
7



Once gable end trim is cut to angle, attach the trim piece with one 1″ screw into the fascia board every 24″ of the open gable end. Next, fasten the top of the same trim piece with 1″ screws at every roof lath.

When complete, repeat steps 6-8 on the other gable end.

8



9

Locate ridge cap. Remove backing from foam and attach to the underside of the ridge cap. Place ridge cap, flush with previously installed trim, fastening every 24″ with 1 1/2″ screws 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:

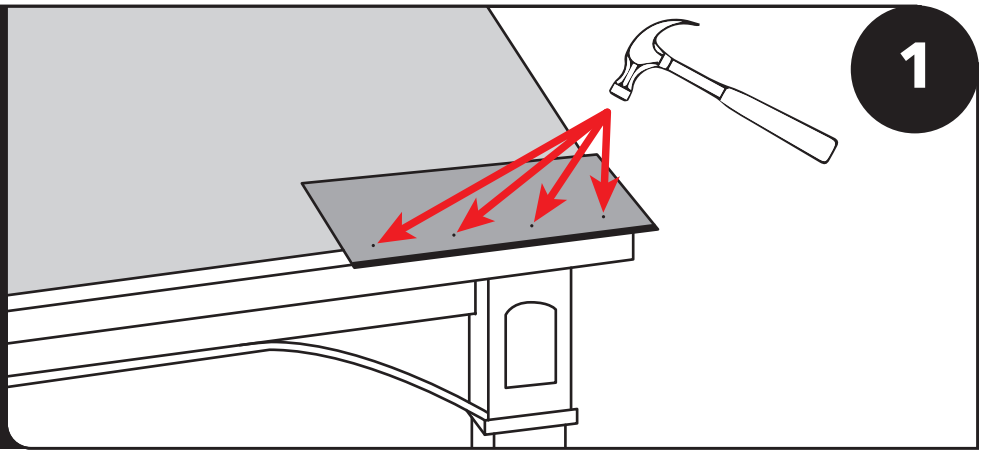
- **5/8" long roofing nails**
- **Roofing staples with 5/8" leg and 1" wide crown**

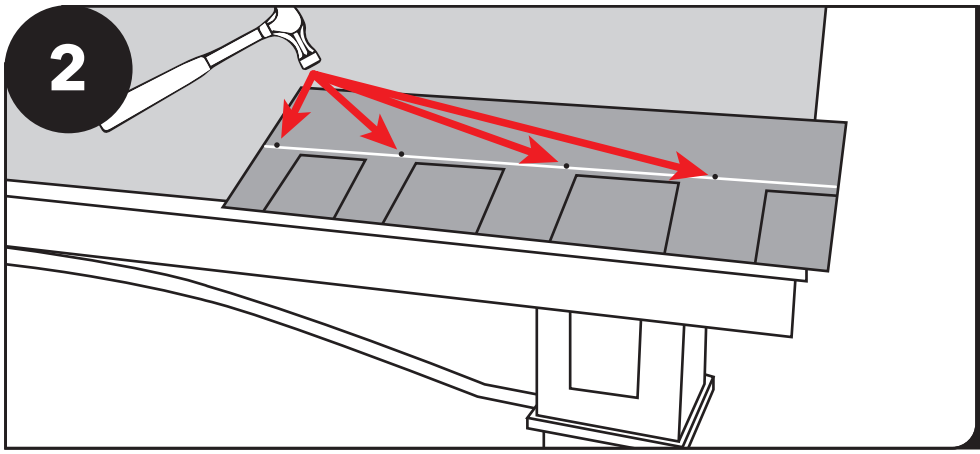
These fasteners will certainly be sufficient to hold the shingles to your roof in high storm winds, and will not pierce the bottom surface of the 1x6 roof decking.

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.

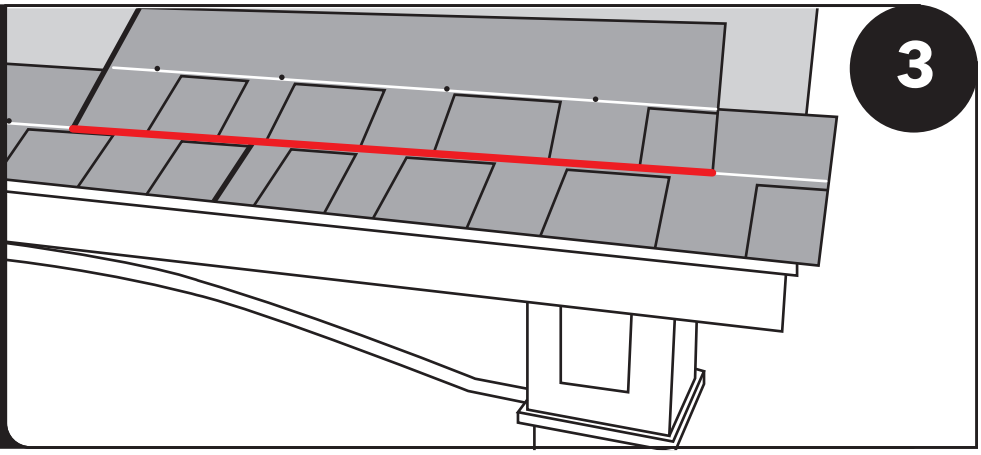
To install 1st row of shingles, turn shingle upside down with black tar line at bottom edge facing up and attach to roof using four 5/8" roofing nails. Place nails approximately 3" from bottom.

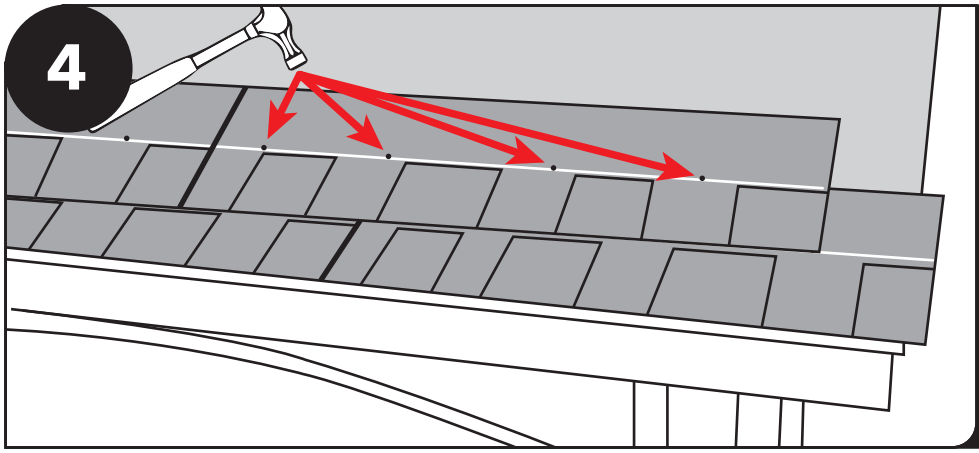




Use four 5/8" roofing nails and attach to roof through shingle at the center line marked on the shingle. Do not fasten below the line or your fasteners will be exposed.

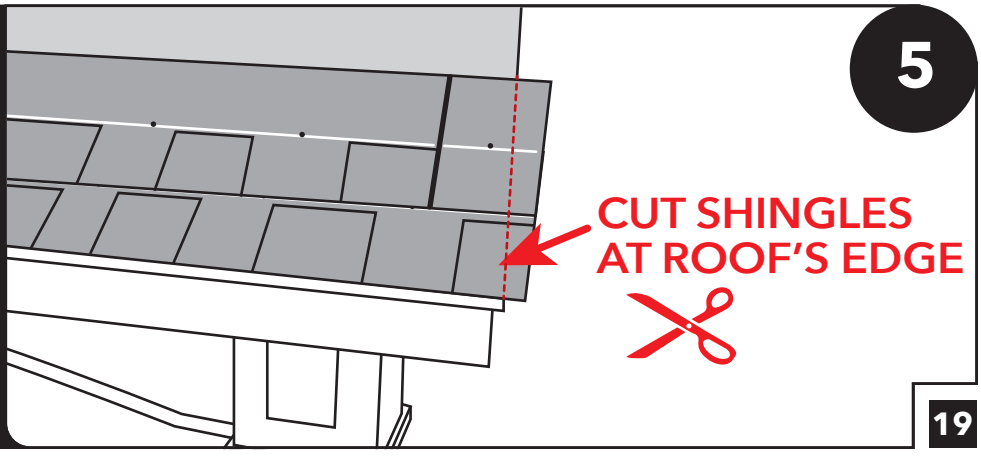
Start second row, line up bottom of shingle with the architectural line on the shingle below.



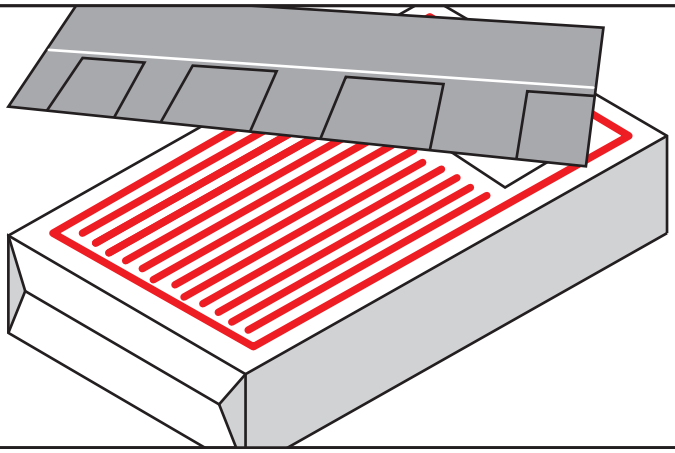


Attach second row of shingles to the roof using 5/8" roof nails provided or a power stapler. Do not use long nails or staples that protrude through 1X6 roof decking.

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



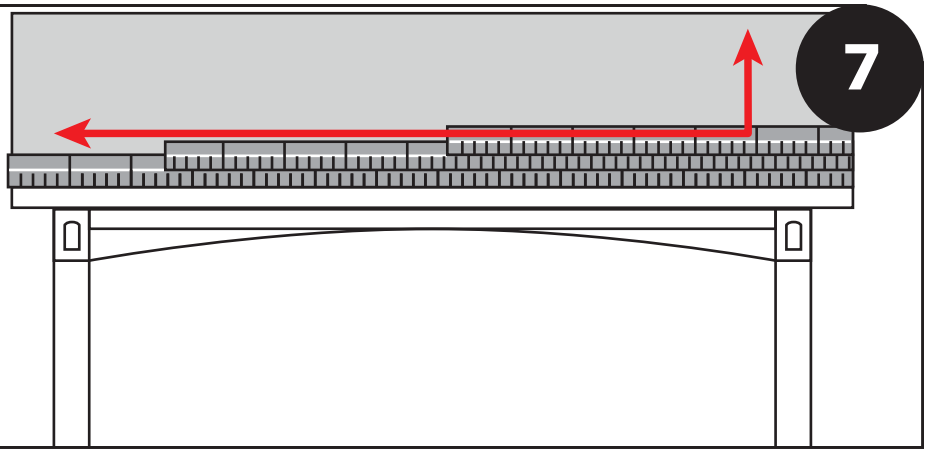
6



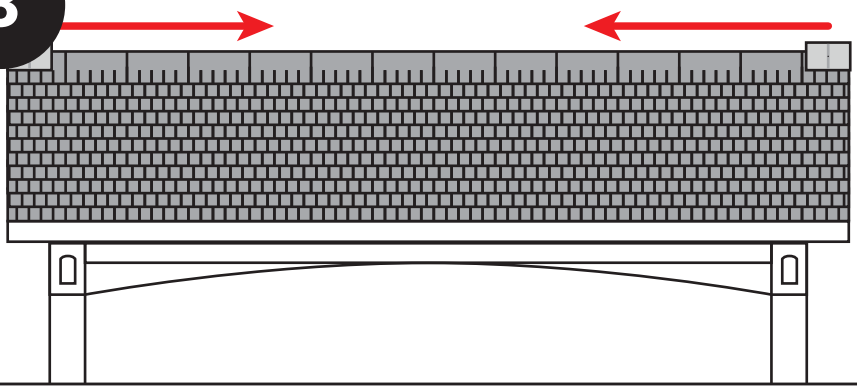
Also see instructions on shingle package.

Work across then up. Continue to the top.

7



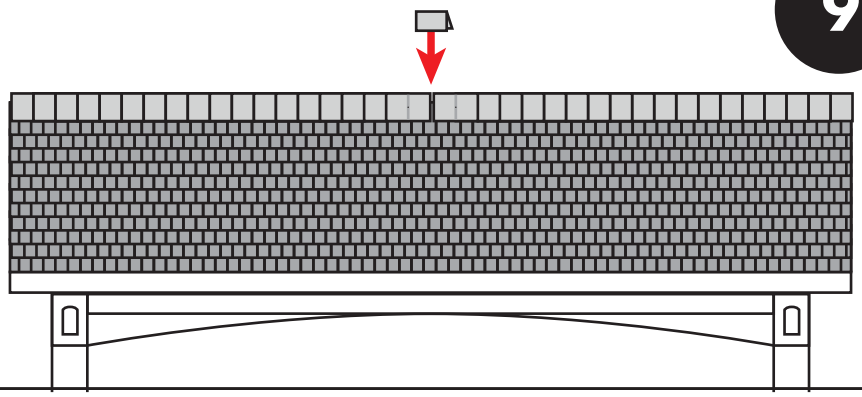
8



Start at both ends of ridge and work toward the center of the ridge.

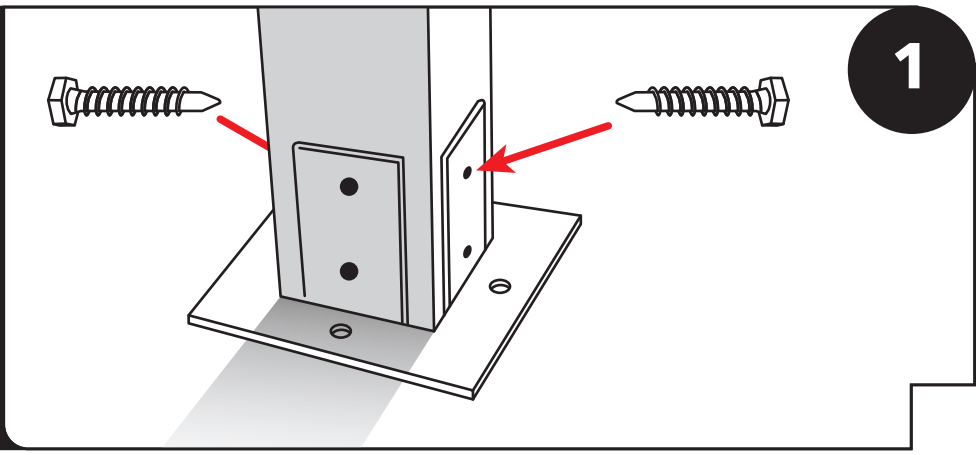
Last piece will need cut in half and will bring the corners together.

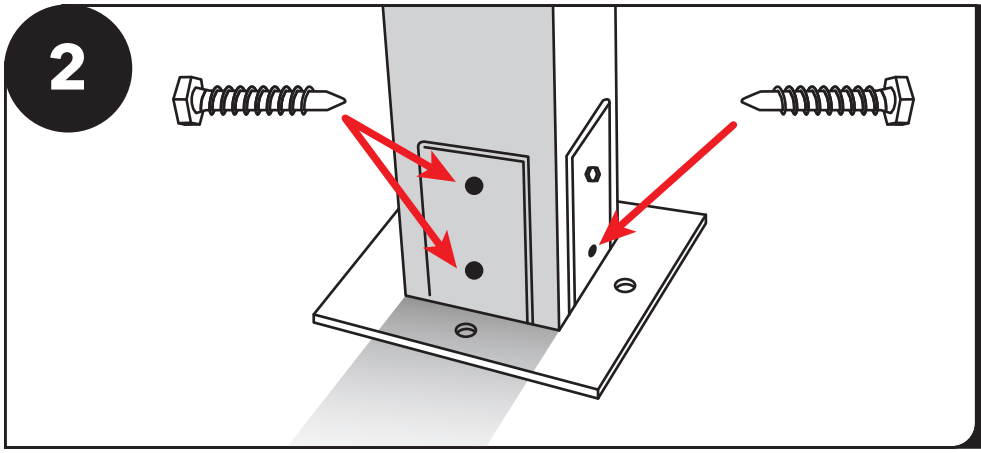
9



Heavy Duty Anchors for High Wind

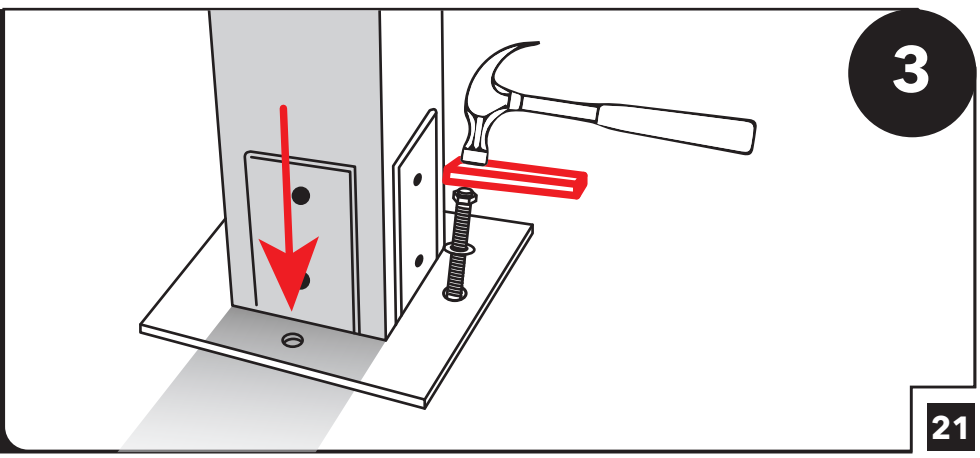
After placing post bases on from step 11, slide HD high wind bracket onto the bottom of the post. Screw two 3/8"x3" hex lags into the pre-drilled holes on opposite sides of the bracket. Repeat on all posts. Continue on with regular instructions starting at step 12.



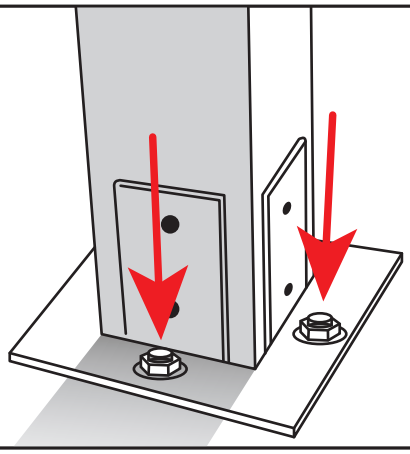


Screw into each post the remaining six 3/8" x 3" hex lags using the pre-drilled holes. Repeat with all posts.

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.



4



Continue on with regular instructions at step 23.

Electrical Package Assembly
Wood Structures

NOTE: A qualified electrician is required to install any electrical work beyond the provided steps and roughed-in wiring package.

1

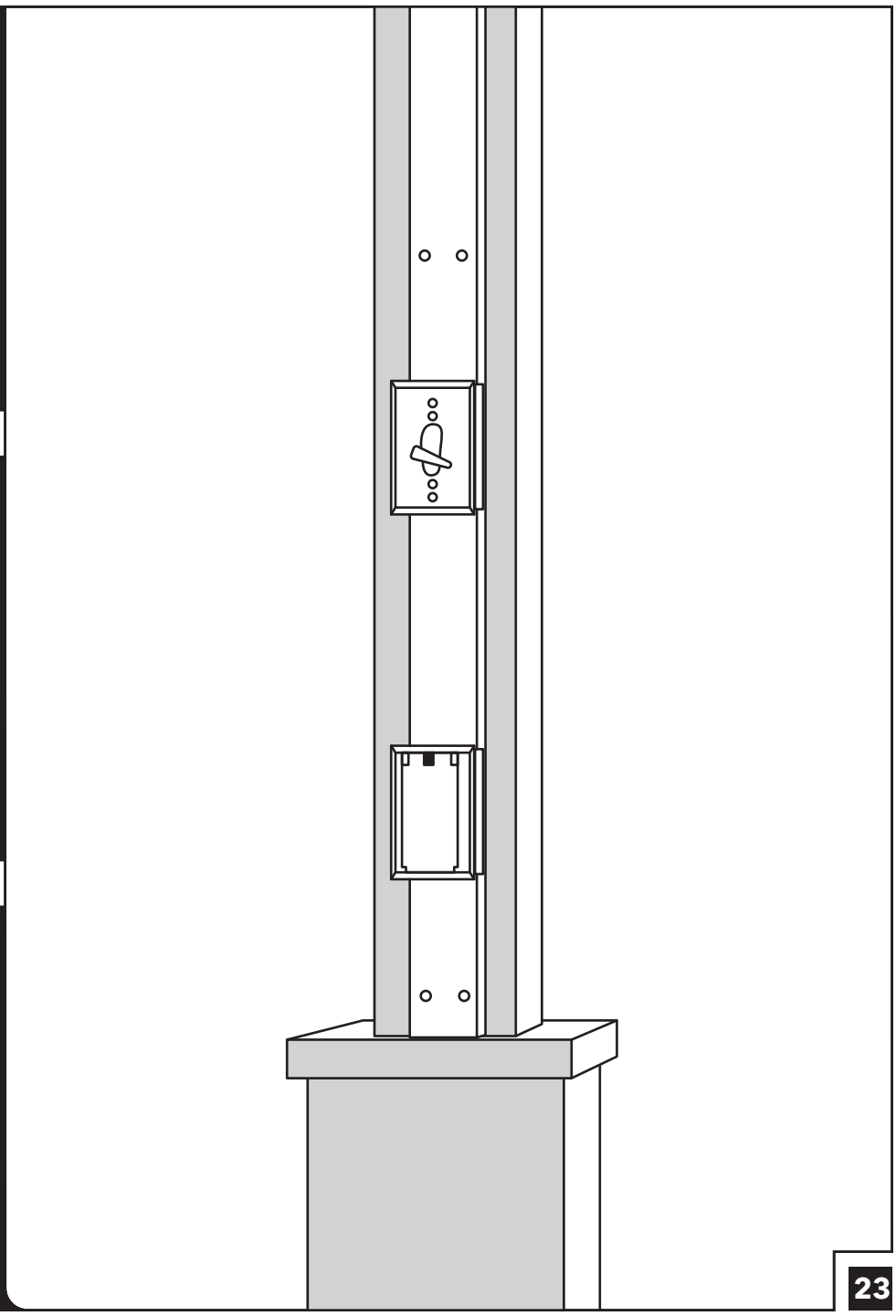
Locate the post with the routed groove extending from the top of the post down 24".

2

Locate the wiring package trim piece. The end with the short wire is the bottom.

3

Seat the longer excess wire into the vertical 24" groove on the post. (This wiring groove will be covered by the header when installed.)



4

Locate the post base trim piece with a notch in the top opening. Place post base trim piece onto the post making sure that the top notch aligns with the grooved side of the post.

5

Pass the bottom wire through the notch on the post base trim at the top and bottom. Continue on to Page 4 Step 7.

6

Fasten the electrical trim piece to the post, being sure not to screw into wire. Use two 2 1/2" screws at the top and the bottom of the electrical trim piece. Continue on with Step 24 on page 9.