



CARPORT ASSEMBLY GUIDE

Don't just dream it, build it!

METAL ROOFING SUPPLY

4061 Highway 157 // Steprock, AR 72081
501.728.2122 // metalroofingsupply.org

CONTENTS

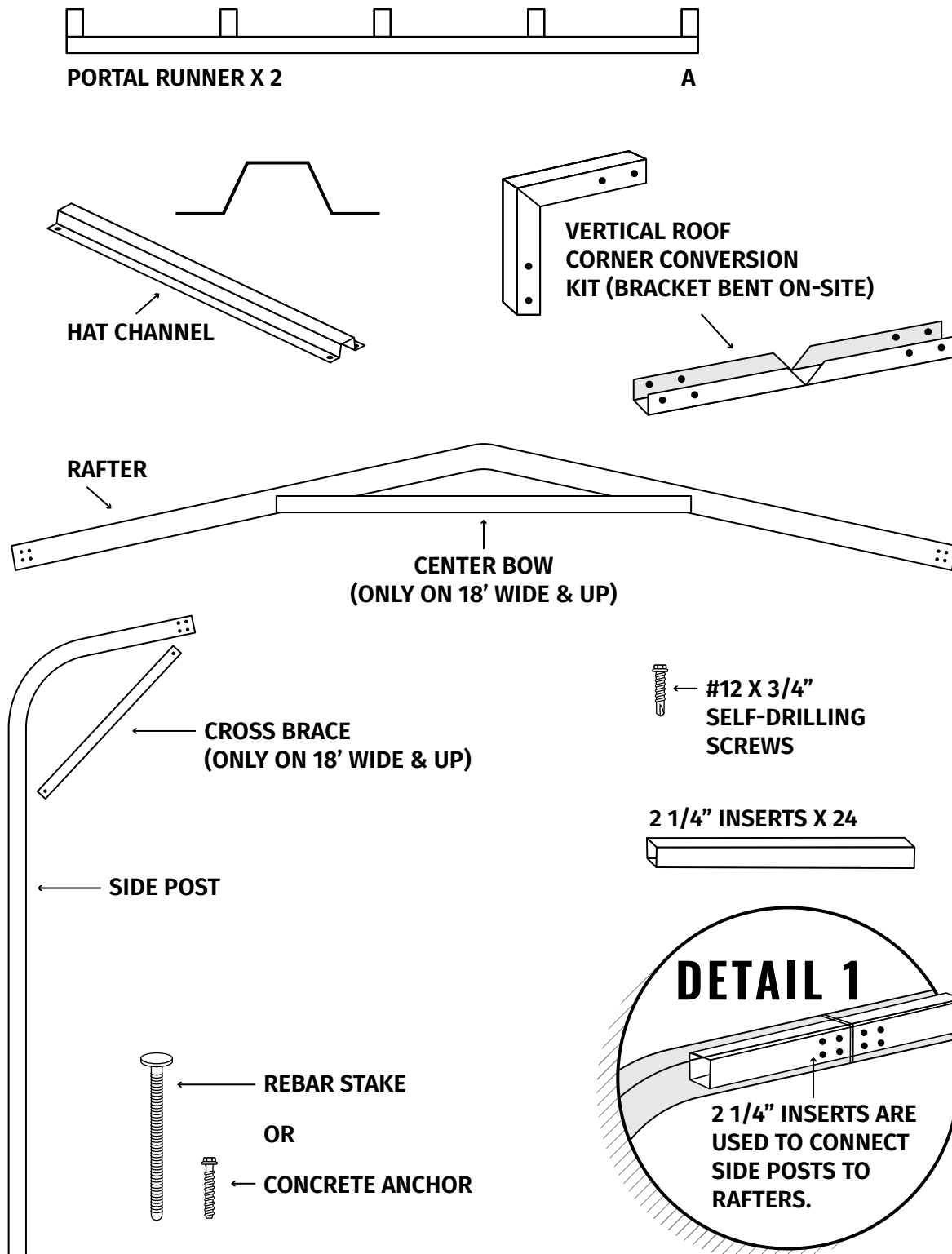
2	SUPPLIES
5	FRAMING
11	HORIZONTAL INSTALL
13	LATHING THE ROOF (FOR VERTICAL INSTALL)
15	SIDEWALL SHEETING
16	ROOF SHEETING
18	TRIM INSTALL

FOR 30' & 35' WIDE ADD-ONS, ASK FOR A REFERENCE.

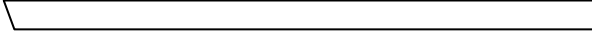
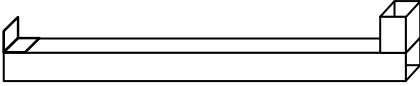
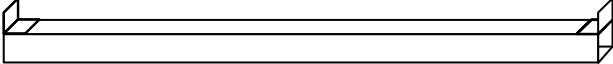
GENERAL INFORMATION

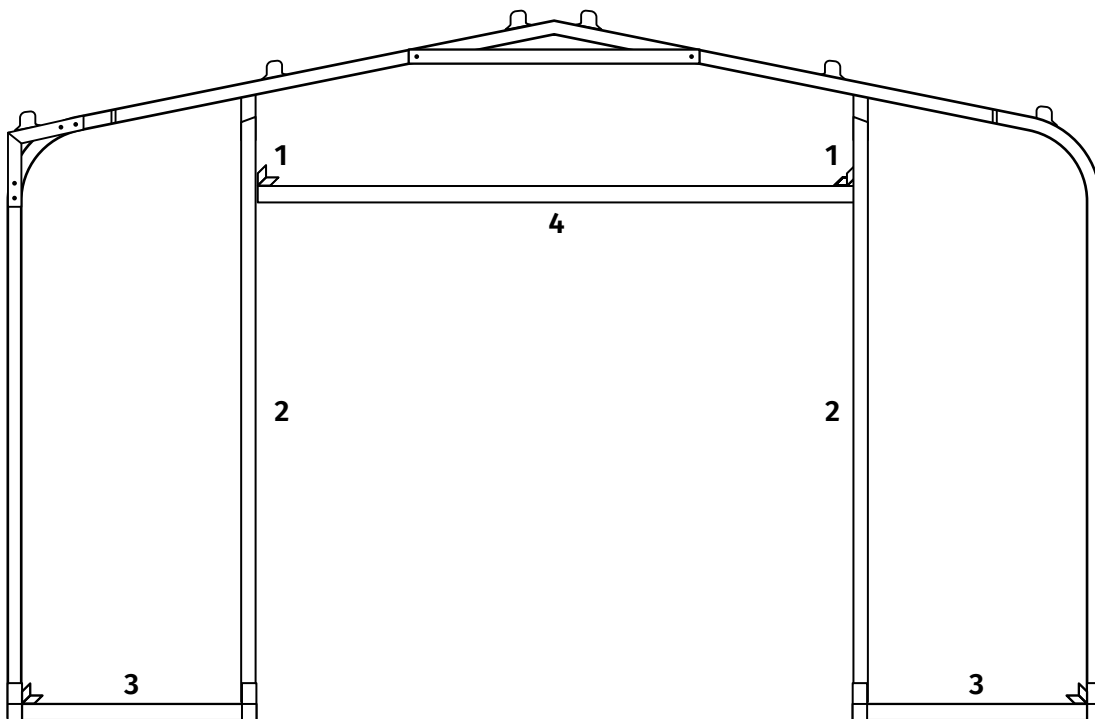
- Metal Roofing Supply is not responsible for errors in the installation process.
- A professional installer may be needed if you have never erected a metal frame tube building.
- You are responsible for following any OSHA requirements or guidelines as well as any state, city or local codes or requirements.
- When installed correctly, the GENERIC ENGINEERING RATING is as follows:
 - 150mph wind 3psf collateral and 3psf dead.
 - 20psf roof snow as well as 20psf roof live load.
 - Generic Engineering Rating does not apply to horizontally sheeted carports.

PARTS LIST



PARTS LIST

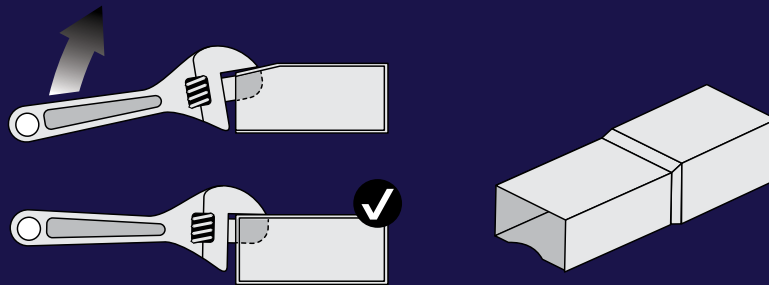
- 1  2" X 2" X 2" CLIP
- 2  DOOR POST
- 3  END WALL DOOR RUNNER*
- 4  12' DOOR HEADER



NOTE: Walk door openings will have same header and will NOT have runner cut out of the bottom. They will include jamb for one side. The other side jamb will be the main frame of carport.

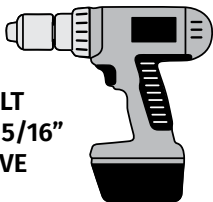
ATTENTION: IT IS IMPORTANT THAT YOU READ THE FOLLOWING NOTE BEFORE STARTING THE ASSEMBLY OF YOUR CARPORT

NOTE: If during the installation process you have difficulty fitting frame components together, use an adjustable wrench to open the end of the receiving tube as shown below. Close wrench down around bent portion of tube and bend wall outward. It may also be helpful to hit the center of the swage at the end of the tube to create more of a lead.



YOU WILL NEED

14 OR 18 VOLT
DRILL WITH 5/16"
SOCKET DRIVE



SAFETY
GLASSES



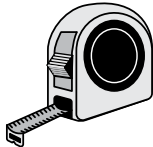
WORK GLOVES



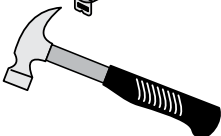
PENCIL/
MARKER



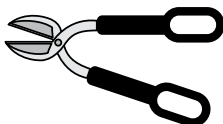
TAPE MEASURE



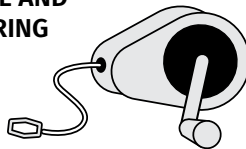
HAMMER



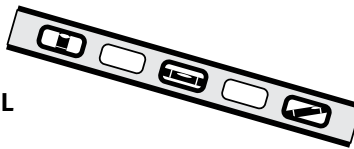
TIN SNIPS



CHALK LINE AND
NYLON STRING



LEVEL



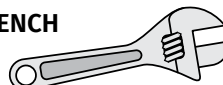
2 STEP
LADDERS



MUST BE ABLE TO REACH THE
PEAK OF THE BUILDING 10' TO 16'
HIGH. AN EXTENSION LADDER MAY
BE HELPFUL WHEN INSTALLING
SHEET METAL.

YOU MAY NEED

ADJUSTABLE WRENCH



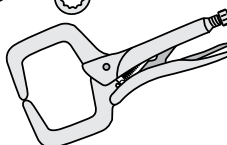
MASONRY
DRILL BIT
1/2" X 8'



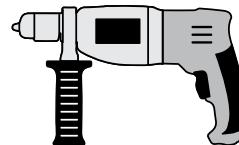
WRENCH 3/4" & 1/2"



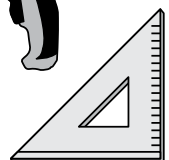
VICE GRIP OR
CLAMP



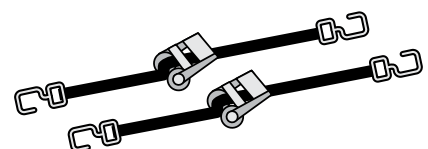
HAMMER DRILL



CARPENTER'S
TRIANGLE

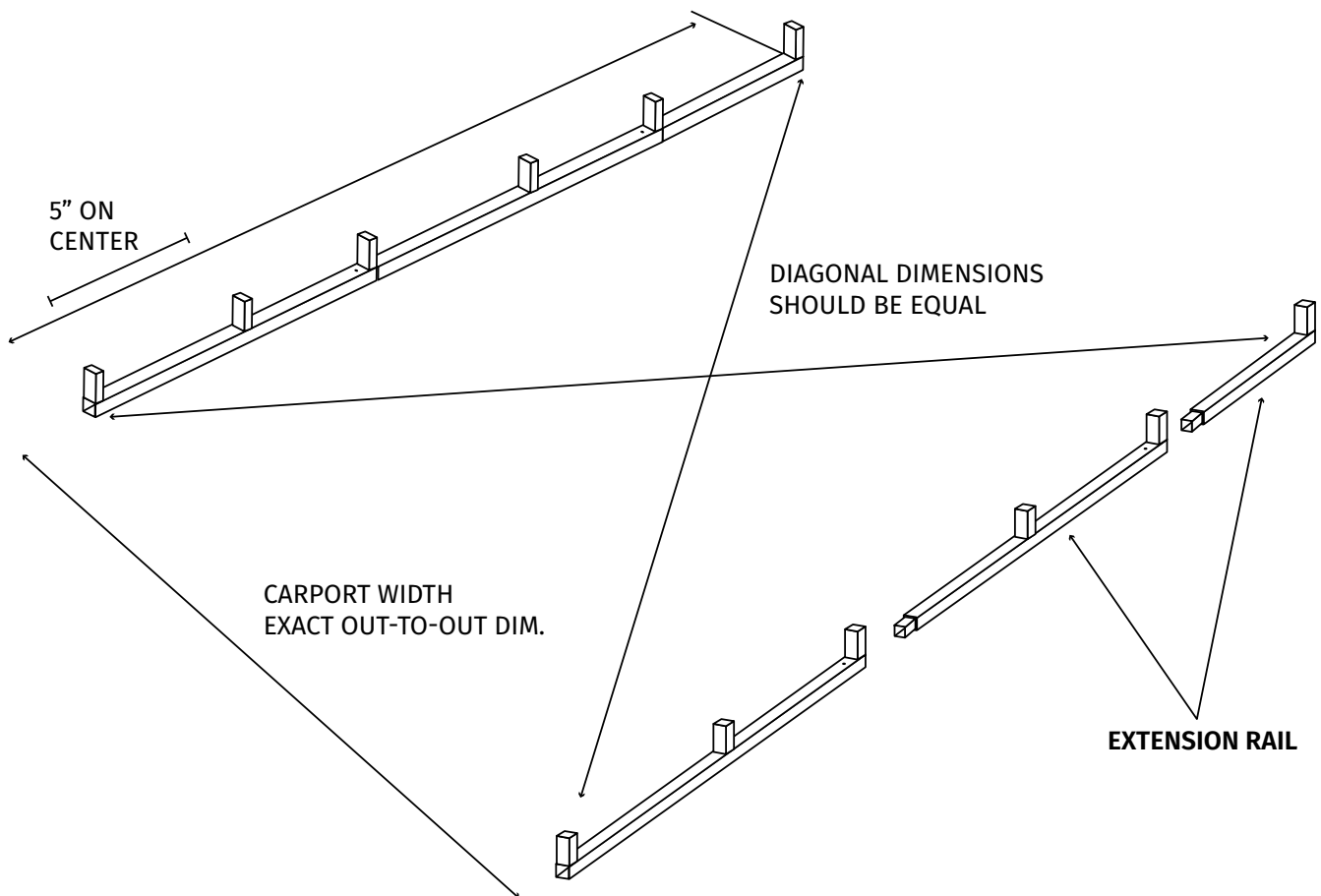


RATCHET STRAPS
(TO PLUMB FRAME FRAME)



STEP 1: LAY OUT YOUR RUNNER.

Make sure your runner is square. Place a few stakes to keep everything squared up then proceed to Step 2.

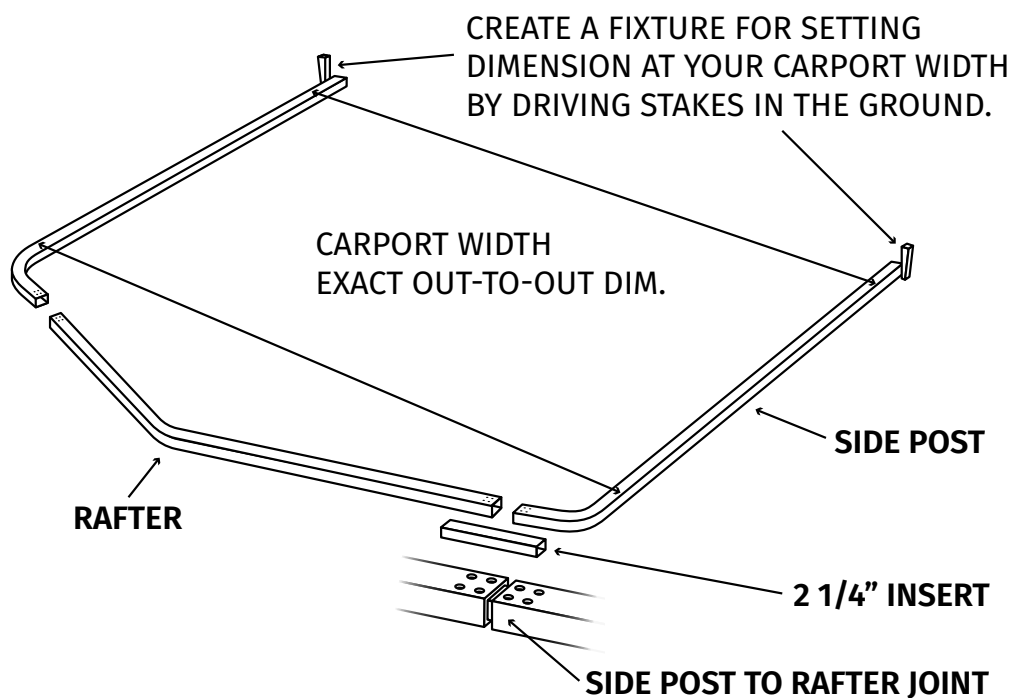


Note: You may have extension rails if your carport is over 20'. If it is not over 20' your rail will be a solid one-piece design.

STEP 2: ASSEMBLE THE MAIN PORTAL FRAMING.

Before you fasten the joints with screws, take a measurement across the top and bottom of the assembly as shown. This outside measurement is the outside size of your building. Try to keep the joint spacing on both sides of the assembly equal.

Now fasten the 2 1/4" insert to the rafter using 4 screws, and then slide the rafter and insert combo into the side post and fasten with 4 more screws. Please see the details below for instruction.

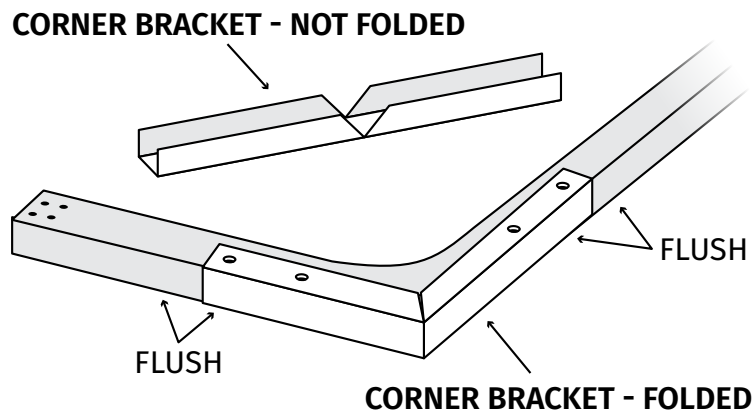


Tip: It is very helpful to drive stakes into the ground at the width of the building and use them to set the dimension at the bottom of the assembly. You should set the bottom dimension before you adjust and set the top dimension.

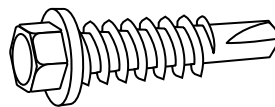
INSTALLATION OF CORNER BRACKETS

Corner brackets must be installed on all side post corners (eave corners).

The corner brackets will come in the kit in the straight form, and they must be folded to fit the eave corner. Fold the bracket and place it on the side post corner. Make sure that it is flush with both surfaces, and fasten the bracket on both sides of the assembly with 4 screws per side.



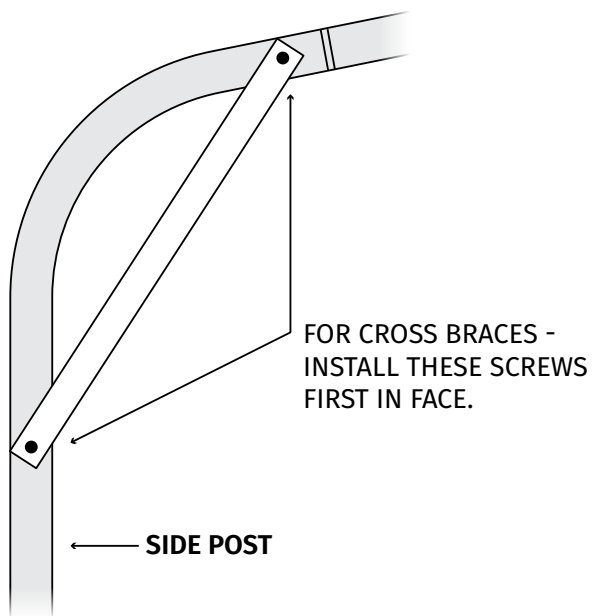
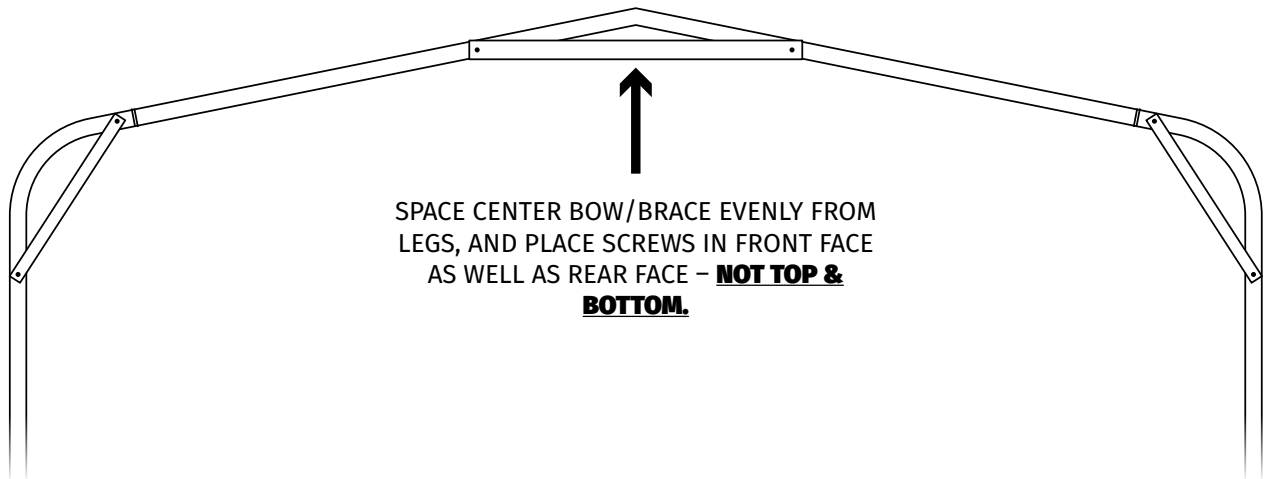
#12 X 3/4" SELF-DRILLING SCREWS



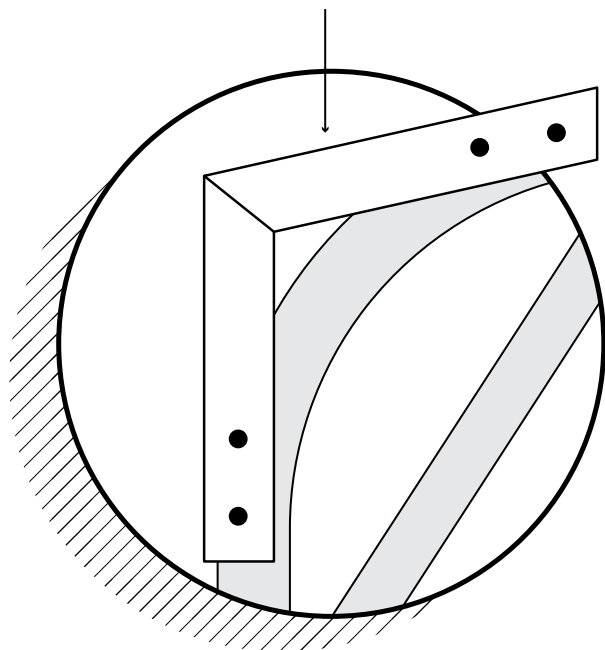
Note: You can use the first assembly as a template to assemble the remaining Roof/Wall Frames.

STEP 3: APPLY ALL BRACES TO PORTAL FRAMES.

Space center-brace evenly from legs, and place screws in front face as well as rear face- **NOT top & bottom.**



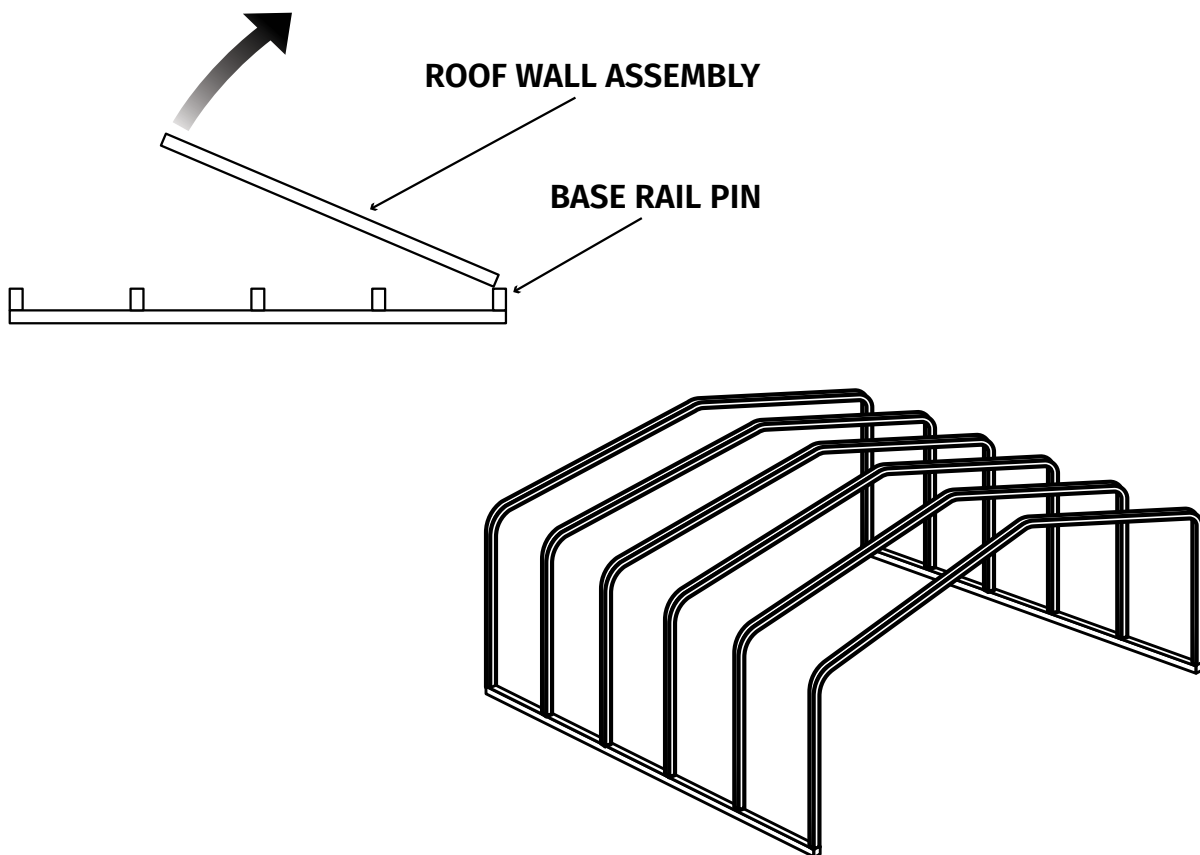
NOTE: IF INSTALLING A VERTICAL ROOF, THIS CORNER BRACKET IS ALSO NEEDED.



STEP 4: INSTALL PORTAL FRAMES TO RUNNERS.

NOTE: This assembly will require at least 2 people.

- Start at one end of the carport and place a Roof/Wall assembly:
Place bottom of side posts on base rail pins at an angle. Raise frame section and drop it onto pins at the same time on both sides of the carport. Tap lightly on the side post with a hammer if parts do not drop into place.
- Fasten joints with 2 screws each.
- Repeat this assembly until all Roof/Wall assemblies are installed.



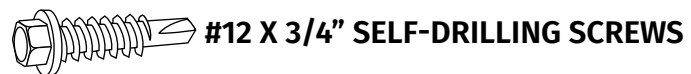
SQUARING UP YOUR FRAME

Before you install sheet metal panels, you may want to check the Roof/Wall assemblies to make sure they are square and that the height of each side post is equal.

To do this, first check the front and back Roof/Wall sections to make sure that they are square with the frame. If adjustments must be made, you can drive a wooden or metal stake into the ground about 8' from the building and use a Motorcycle strap or Ratchet strap to pull the side post into plumb. Place a clamp on the side post as shown and attach the strap above the clamp.

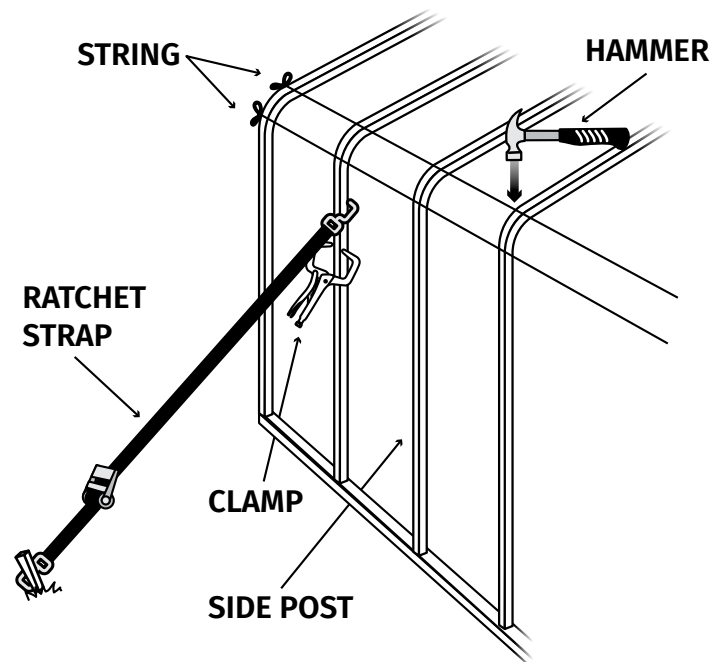
When the front and back sections are plumb (side to side) tie two strings from the front side post to the back side post at the bottom and top of the bend radius as shown. These strings will let you see which sections are high, low or out of plumb.

If the side posts are high or low, remove the joint screws and raise the low posts and hammer down the higher posts as much as possible. Reinstall the screws in a new location. Check the height of the side posts on both sides of the building. The straps should remain in place until the roof purlins are installed.



NOTE: This is not a critical step, but it may improve the appearance of your building.

If side posts are out of plane with the other side posts more than 1/4" it may be visible.



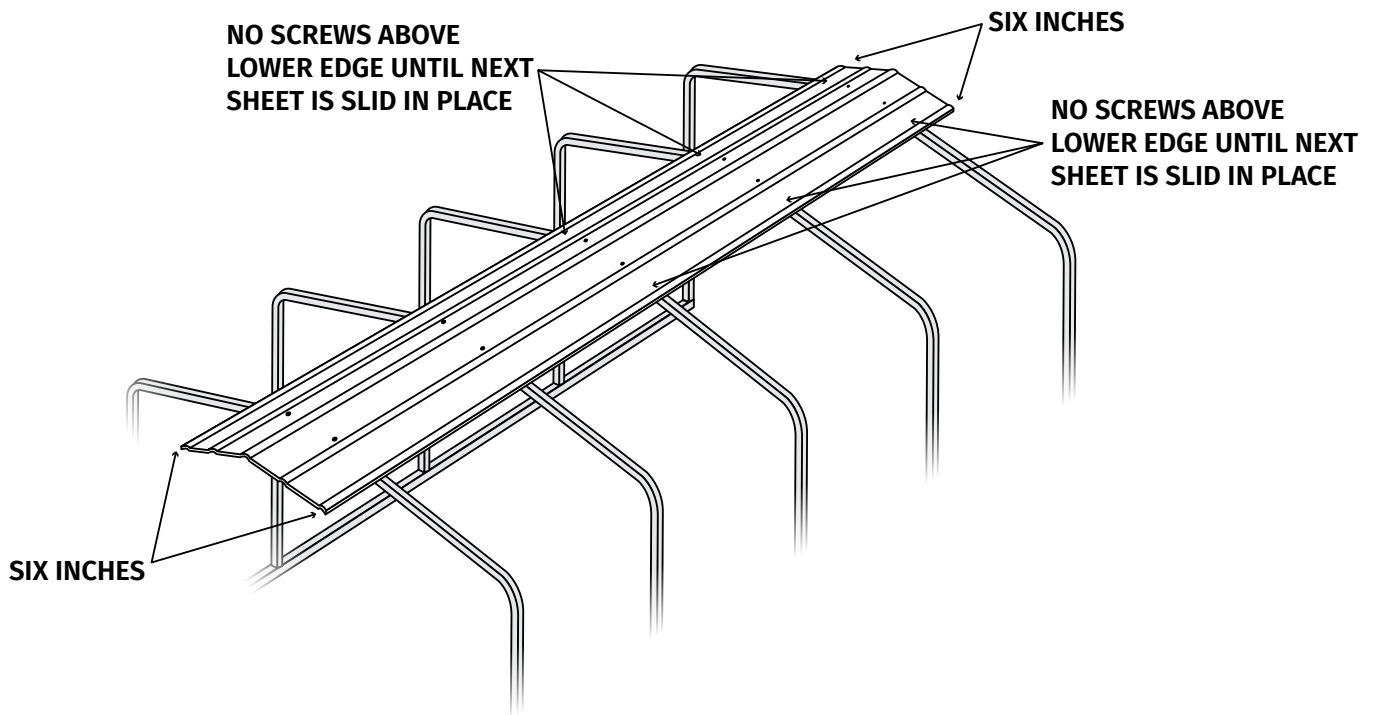
FOR HORIZONTAL INSTALL

***IF YOU HAVE A VERTICAL INSTALLATION, SKIP TO PAGE 13. ***

The roof panels will be one (1) foot longer than the main structure. On the outside of both end bows, at the top center, use a marker to mark the top center at the peak. Measure in six inches of the first top sheet to be installed and place a mark in the center of the sheet on the bottom.

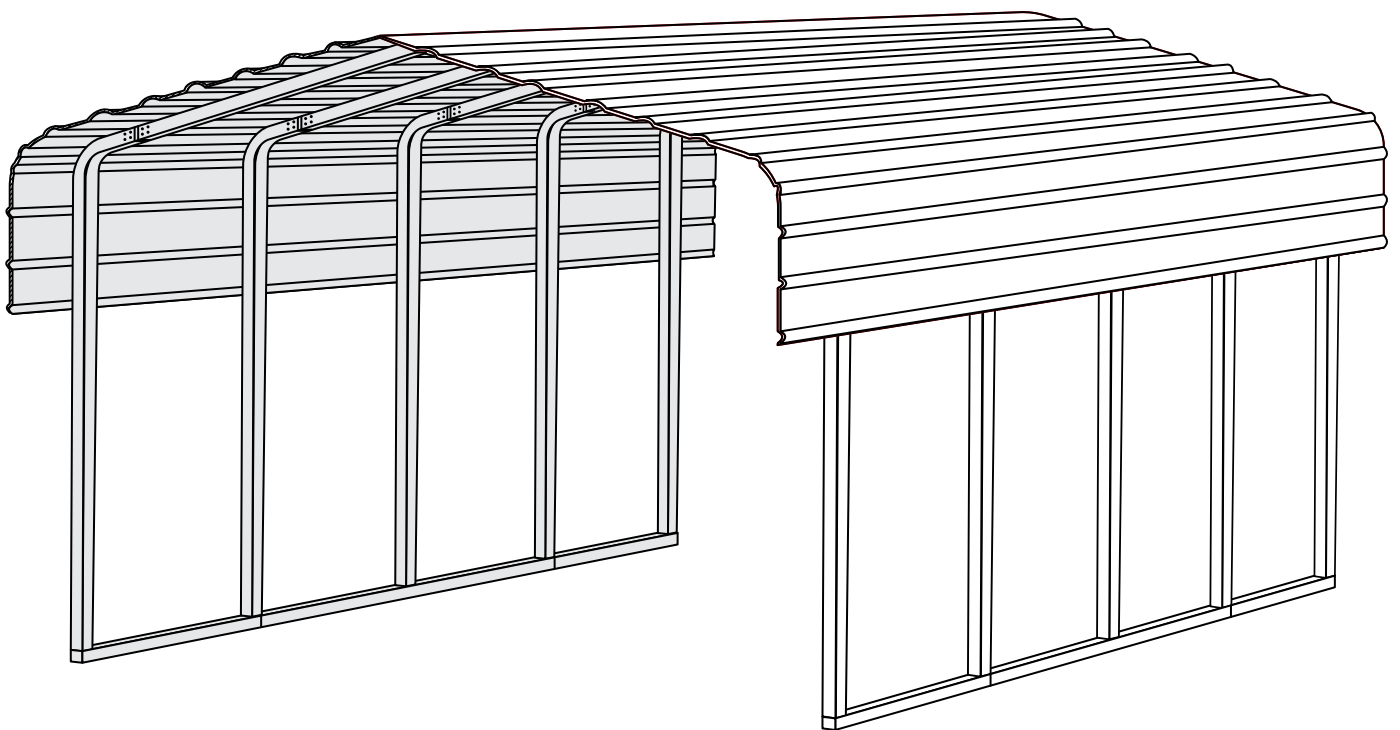
Slide the first sheet up to the peak and align the marks on the bows, with the marks on the top sheet. Make sure there is six inches sticking over on both sides evenly spaced. This is vital to keep all other sheets running straight. Start installing screws. If needed, use a chalk line to keep screws running in a straight line in the center of the square tubing.

Do not install the last row of screws in the panels until the next sheet is slid in place. If the sheets come in two pieces to facilitate installing longer sheets, where the two sheets overlap, seal with Geocell sealant or Butyl tape.



The carport will resemble this picture. It's very important the main structure is level and square and the roof sheeting is installed correctly. If the carport is installed right, if there is ever a need to disassemble it, when it's reassembled at a different location the carport should go back together right.

If you are installing a 3x3 trim on the two ends, start at the peak and work down to the bottom edge.



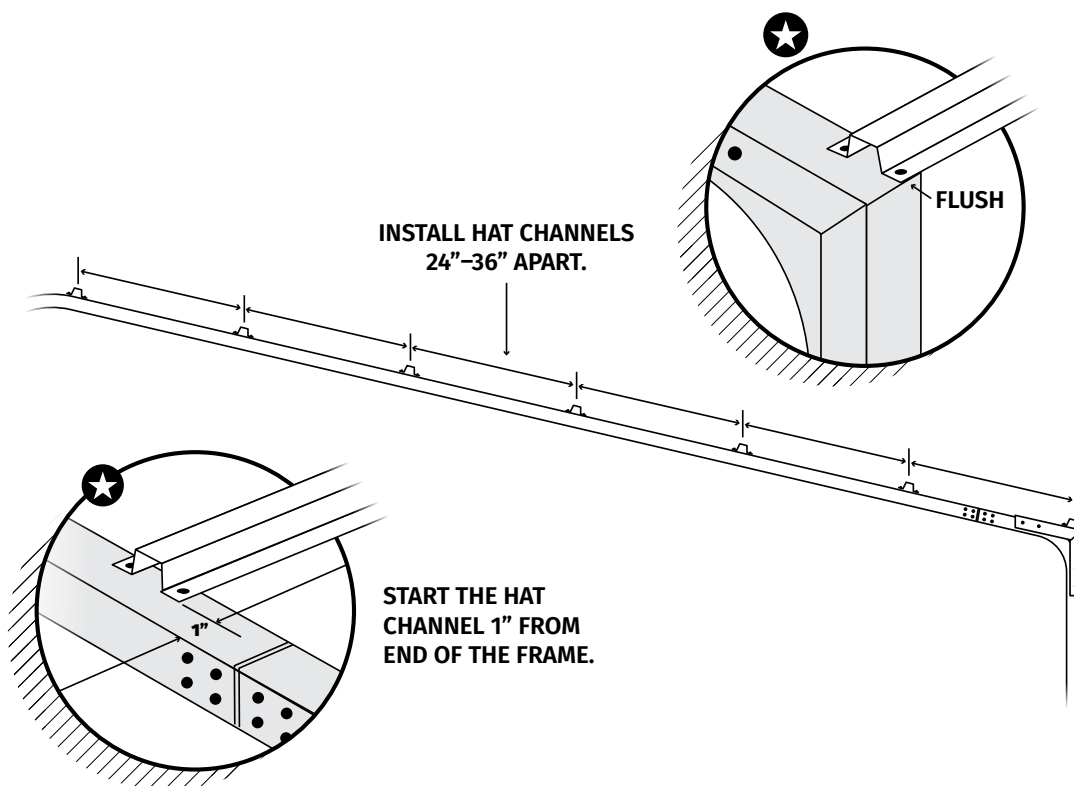
CONTINUE FOR VERTICAL INSTALLATION

STEP 5: LATHING THE ROOF FOR VERTICAL INSTALL

Before you start the installation of hat channel purlins on the roof, we recommend that you brace one end wall of the building. Make sure that the end wall is plumb and attach angle braces from the end wall side posts to the lower portion of the next frame section side posts. You can use wood or metal for this job.

Place a brace on both sides of the building. You can clamp the braces in place or use self-drilling screws. If you use screws, you may want to mount the braces to the outside of the frame. Braces could also be attached to a wood stake driven into the ground 5' or 6' away from the back of the building.

You can measure and locate each hat channel as you go or mark the locations of all the channels on the front and back frame sections. Snap a chalk line the length of the building to mark the hat channel locations on all of the interior frame sections.



Note: If ANY sheet metal is being installed on the eave sides of the structure, installation of those eave panels will need to be completed before roof metal installation begins.

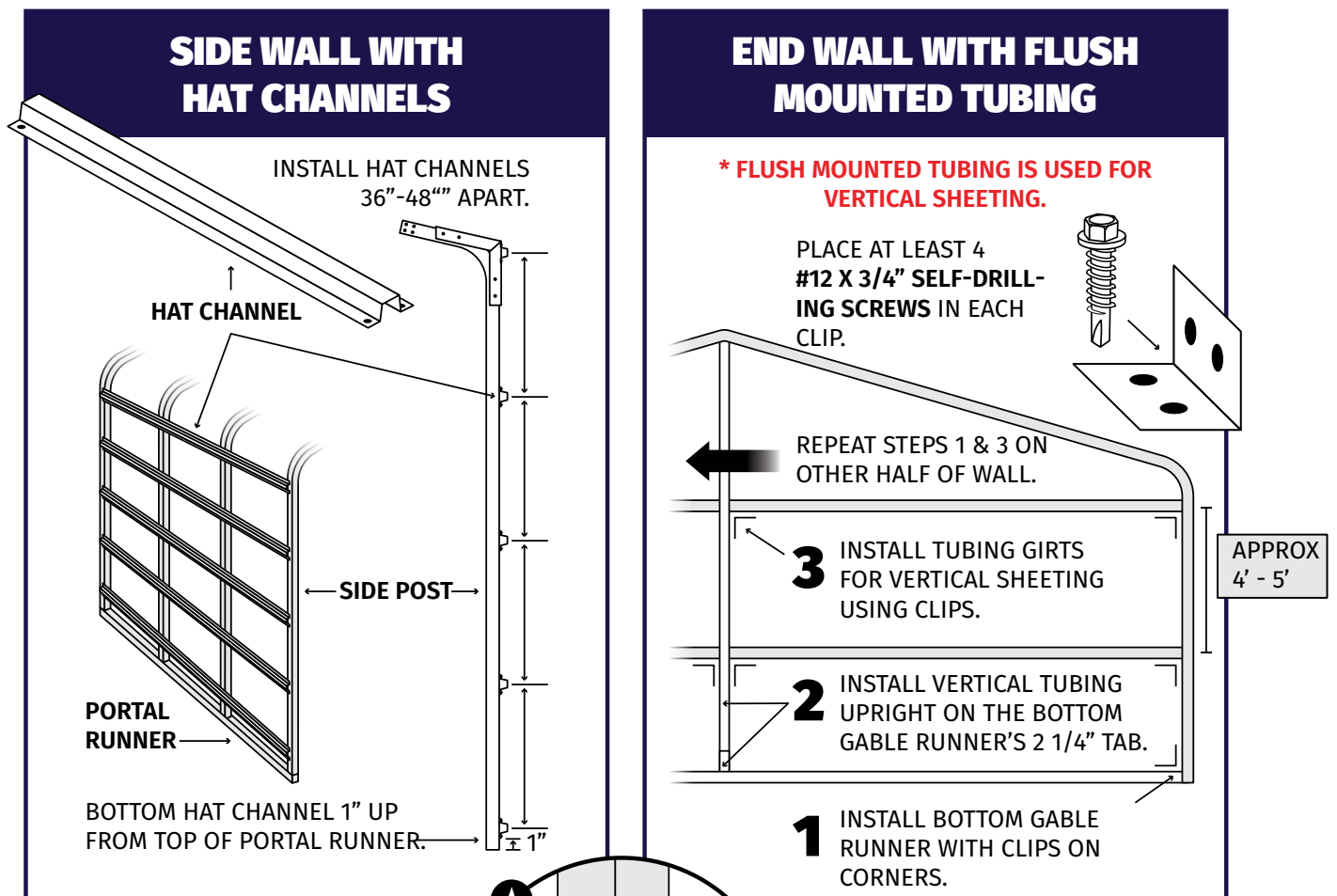
Install hat channel 24"-36" apart.

STEP 6: LATHING THE WALLS.

If you are not installing wall panels, skip to Step 8.

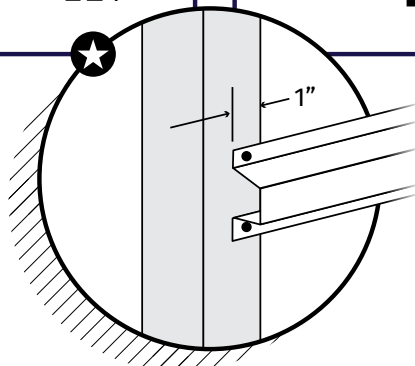
The purlins on the roof and the girts on the sides of your building are Hat Channel. You can measure and locate each hat channel as you go or mark the locations of all the channels on the front and back frame sections and snap a chalk line the length of the building to mark the hat channel locations on all of the interior frame sections.

ILLUSTRATIONS BELOW REPRESENT THE LOCATION OF HAT CHANNEL GIRTS ON THE SIDE OF THE CARPORT.



NOTE:

HAT CHANNEL GIRT ENDS ARE TO BE CENTERED ON THE CARPORT FRAME SECTIONS. THIS MEANS THAT THE FIRST HAT CHANNEL INSTALLED WILL BE 1" FROM THE END OF THE CARPORT FRAME AS SHOWN TO RIGHT.



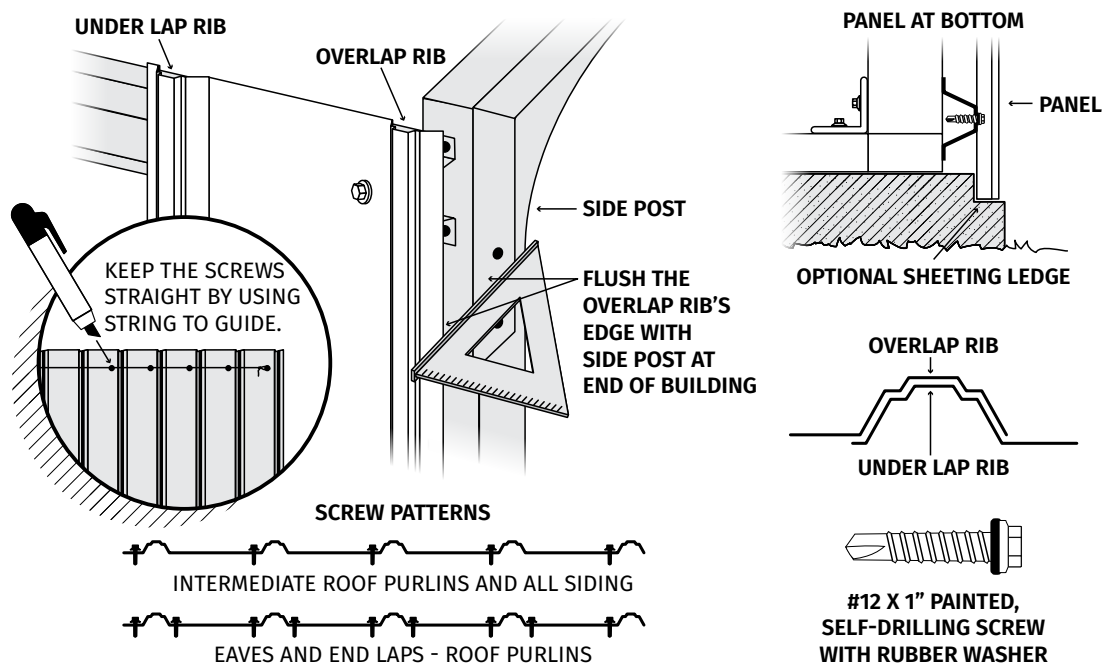
ON THE END WALLS, YOU MAY USE FLUSH MOUNTED TUBING OR HAT CHANNEL ON TOP. PLACE SIDE-WALL GIRTS NO MORE THAN 5' APART.

STEP 7: BEGIN SIDEWALL SHEETING.

INSTALLING VERTICAL SIDE SHEET METAL PANELS

If you have no side wall panels, skip

Start at one corner of the building (It is preferred that you choose a corner that is away from the prevailing wind). Make sure that the frame is plumb when installing the first side panel. All additional panels will depend on the first panel being plumb and square. Carefully place the first panel on the slab sheeting ledge (or at the bottom of the base rail if no sheeting ledge is available.) Place the overlap edge at the starting corner of the building. This will allow you to easily overlap the second panel over the first and so on down the length of the building. Attach the panels to the hat channels with #12 x 1" painted, Self-Drilling Screws with rubber washers. Place one screw about 3/4" to one side of each major rib.



NOTE: It is important to keep the panels from stretching or compressing in width as you install them. The panels should be 36" from the center of the major rib on one side of the panel to the center of the major rib at the other side of the panel.

The last panel installed on the side on the building should come out flush with the other end of the building frame if the length is devisable by 3. If not (example 20' or 25' long building), you will need to trim the last panel to be flush with the building frame.

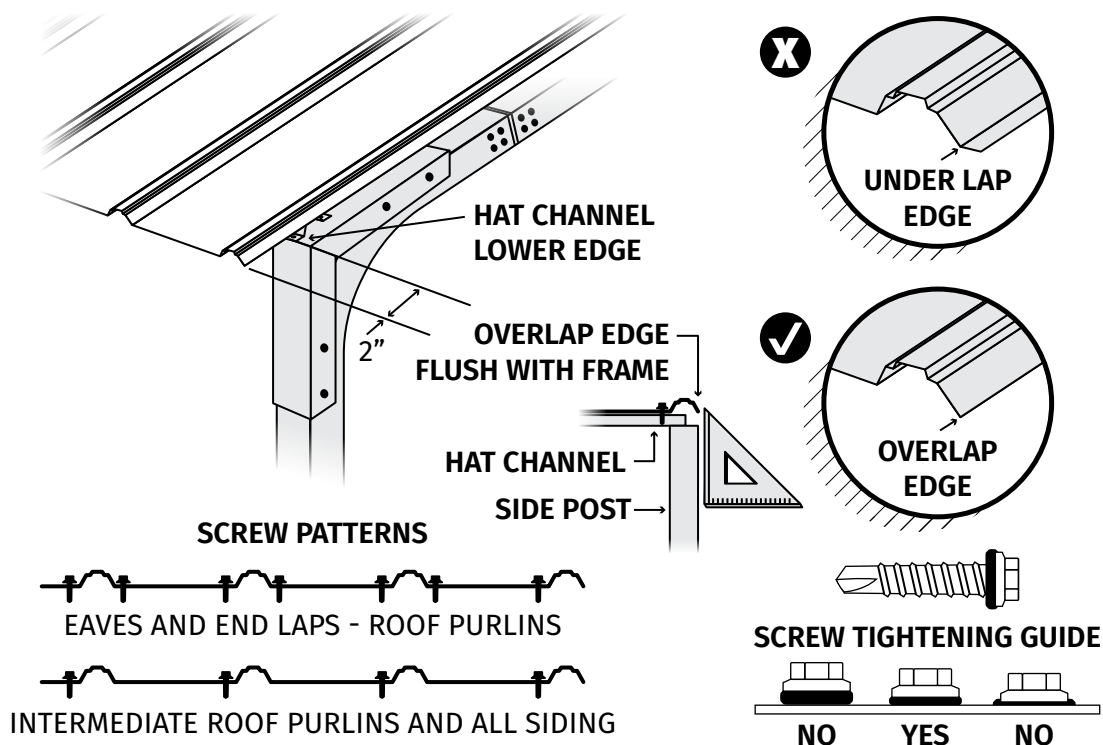
Tip: To keep the screws in a straight line down the length of the building, install screws next to the 1st major rib. You can then tie a small loop in one end of a string, hook it over the first screw and draw the string to the center of the hat channel and mark your line.

STEP 8: BEGIN SHEETING THE ROOF.

INSTALLING THE FIRST PANEL

Place the first panel at the back of the roof. Position the overlap edge of the panel to the rear flush with the carport frame. The lower edge of the panel should be positioned 2" from the lower edge of the first hat channel or the edge of the corner bracket. (See the illustration below)

Clamp the panel in place once you have it in position. Attach the panel to the hat channel with painted #12 x 1" self-drilling screws with rubber sealing washers. Using your drill driver, install one screw about 1" from each major panel rib. Along the eave of the carport, install a screw on both sides of each major rib.



Place panels
face down to
make the cut.

Be sure to wear
your safety glasses
and ear protection.

Do not over
tighten the
screws. See guide.

ATTACHING THE REMAINING PANELS

Continue installing panels as you did the first panel. Each additional panel should be positioned with the overlap edge of the panel over the under-lap edge of the previously installed panels. The bottom edge of the panel should be flush with the previously installed panel. Screw the panels to the hat channel with the same screw pattern as the first panel/panels. When you get to the other end of the carport you will need to trim the last panel/panels to be flush with the frame at that end.

Repeat the assembly for the other side of the carport.

TRIMMING THE LAST PANELS

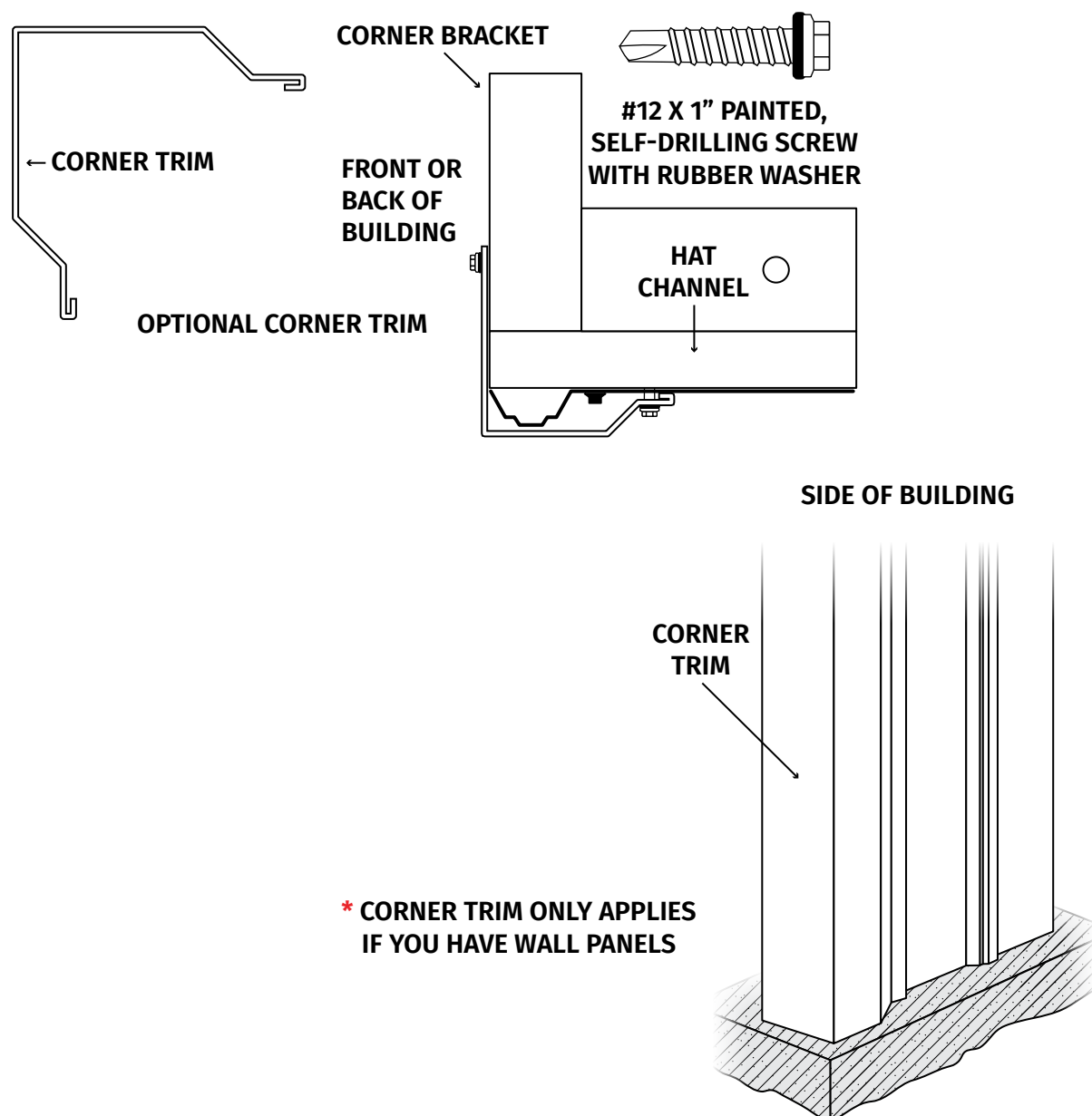
You will have to trim the last panels to be flush with the front of the carport frame. You will trim the last panels accordingly based on the building's dimensions. Place the last panels on the roof and mark the underside of the panel using the carport frame as a guide. There are multiple options to complete this task, such as: turbo shears, hand shears, nibblers, or any cutting method that does **NOT** excessively heat up the metal or throw sparks.

Heated tools like circular saws or grinders may cause swarf - which could void warranty.

STEP 9: INSTALL ALL THE TRIM.

INSTALLING CORNER TRIM

Cut corner trim to fit the corner height of your building. Corner trim should sit down in sheeting ledge if your slab has one. Install a piece of Corner Trim on the 4 corners of the building with 1" Painted, Self-Drilling Screws. Install the screws through the flat flanges at the edges of the trim into the tubing and hat channel (sides).

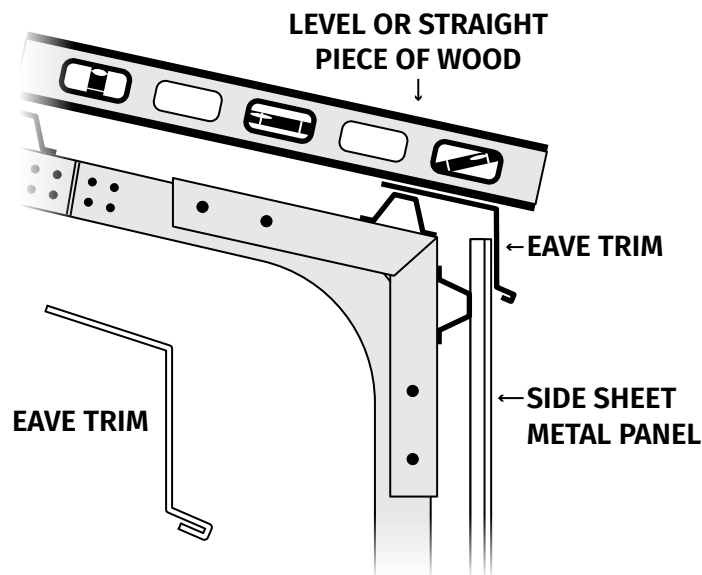


INSTALLING EAVE TRIM

Attach the Eave Trim at the top of the side sheet metal all the way down both sides of the building with #12 x1" Painted, Self-Drilling Screws with Rubber washers. Place the screws into the center of every other major rib. To position the Eave Trim, place a straight board or level on top of the roof frame and extend it out to act as a stop for the top of the Eave Trim. See the illustration below.

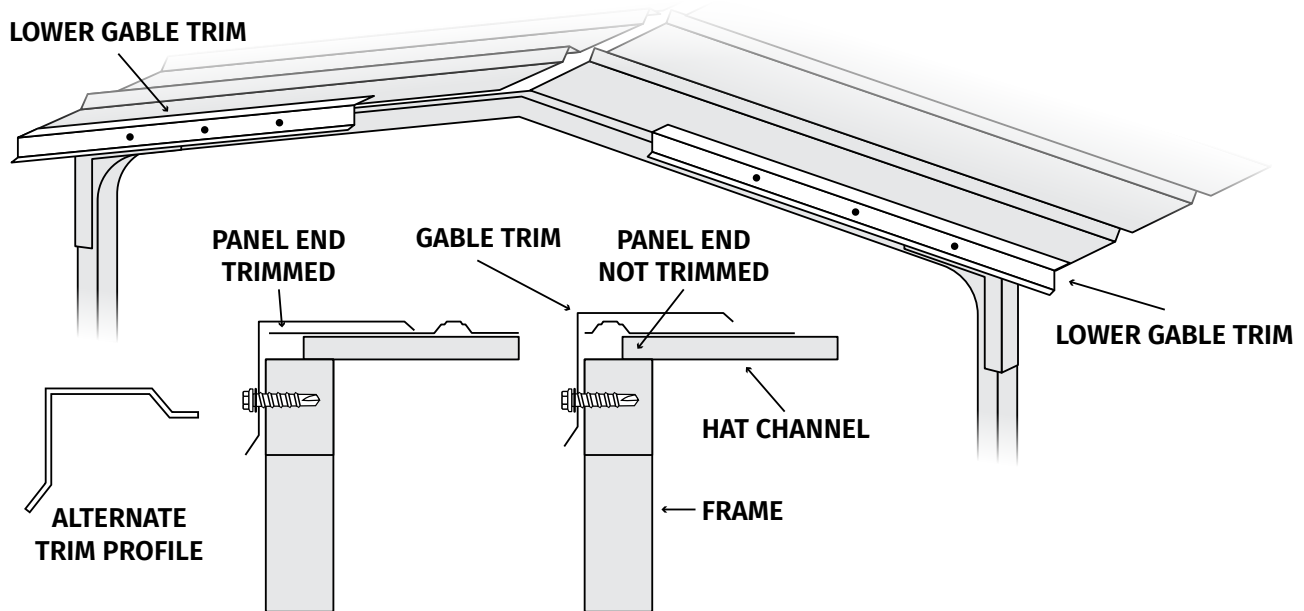
Eave Trim comes in 10' lengths. You will need to overlap the trim about 3" at the ends. Trim excess at end of building flush with the outside of the corner trim. Eave Trim should overlap Corner Trim. Your trim will look better if you start at the back of the building and work forward.

Attach the Eave Trim to side metal by using the typical sheet metal screw with rubber washer. Screw through every other major rib, about every 18".



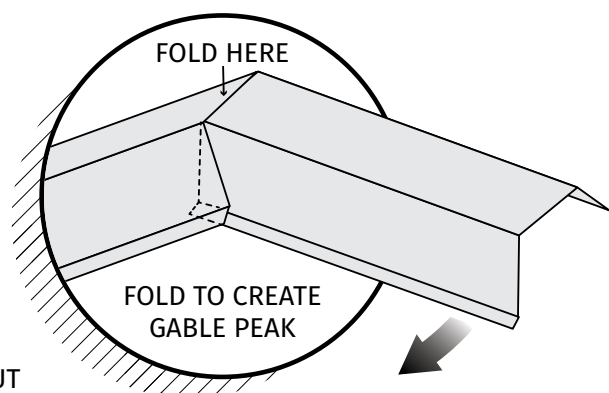
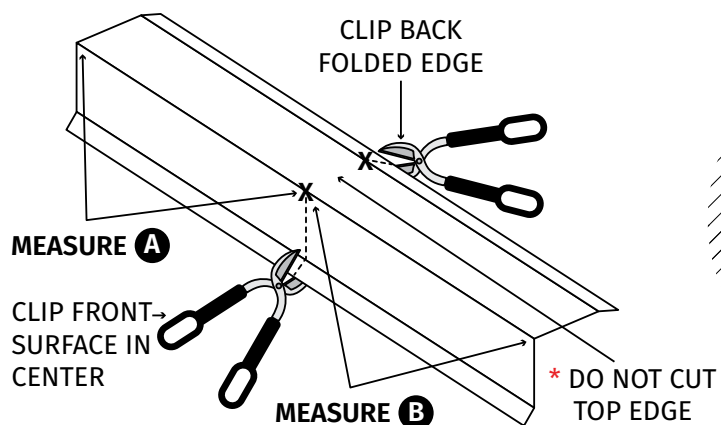
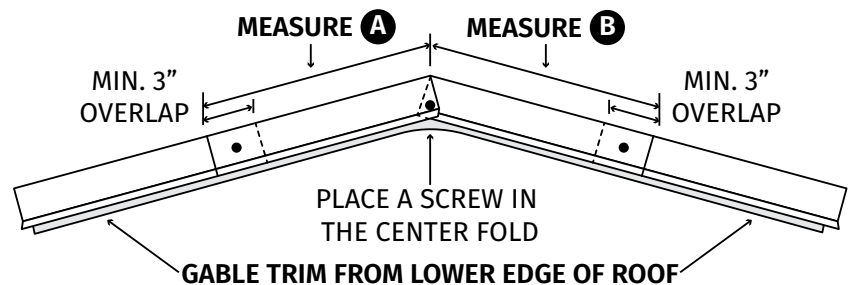
INSTALLING THE GABLE TRIM

You will use 2 pieces of trim on each side of the peak, starting at or flush with the eave of the roof. You will then cut and fold a piece of trim in the center to create a piece of peak trim. The peak trim will overlap the lower pieces of trim about 3".



TO CREATE A GABLE PEAK:

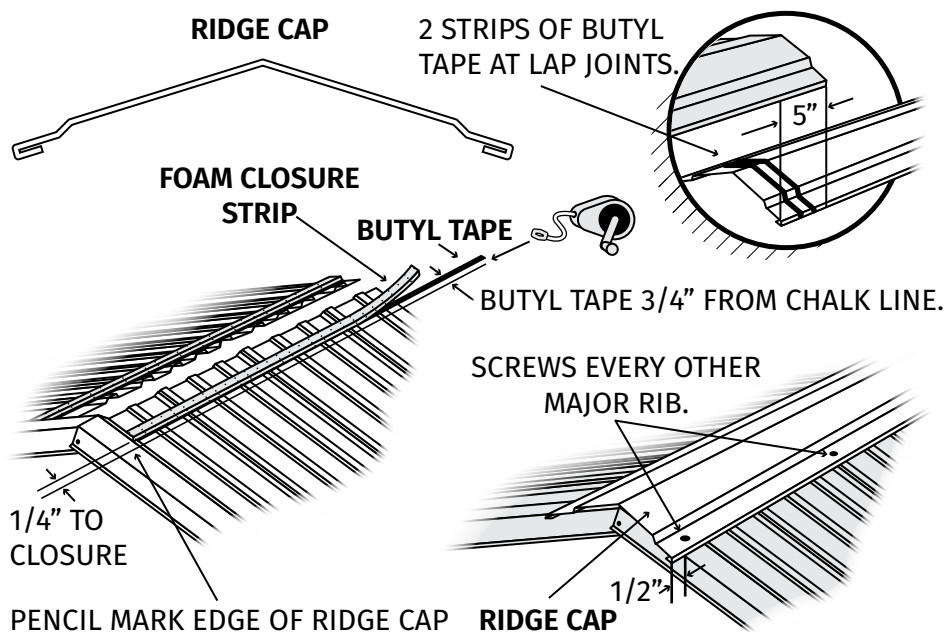
MEASURE/CUT LENGTH OF GABLE PEAK TO OVERLAP THE LOWER GABLE TRIM PIECES AT LEAST 3". AT CENTER, CLIP THE FRONT/BACK EDGES. FOLD TO CREATE THE GABLE PEAK. WHEN INSTALLING PLACE A SCREW IN THE CENTER FOLD.



INSTALLATION OF RIDGE CAP

Place a piece of Ridge Cap on the peak of the carport starting at the back. Center it and make a mark at the lower edges at the end of the carport. Do the same thing at the opposite end of the carport and snap a chalk line between the marks. This will make the Ridge Cap easier to line up and provide a measuring point for locating Butyl Sealing Tape and Outside Foam Closure Strips.

Apply a bead of Butyl Sealing Tape to the roof panels the full length of the building 3/4" up from the chalk lines on both sides of the roof. Now, press Outside Foam Closure strips to the Butyl Tape all the way down the carport on both sides of the roof. The edge of the Closure should be 1/4" up from the chalk line. Install the first piece of Ridge Cap on the peak at the back of the carport.



Note: Ridge cap will come in 10' lengths. You will overlap pieces 5" until you get to the other end of the carport where you will trim the last piece to fit. The ridge cap should overhang the gable trim 1/2" at both ends of the building.

Let the Ridge Cap overhang the Gable Trim by 1/2". Fasten with 1" Painted, Selfdrilling Screws through the edge flange and into the top of every other major rib. Run two beads of butyl tape at the end of the first piece of ridge cap to seal it to the next overlapping piece of Ridge Cap.

You will have to measure and cut the last piece of ridge cap to overlap the first piece **at least 6"** and to overhang the other end of the carport gable trim 1/2". Lap the next piece of Ridge Cap over the first, press the seam together and attach with screws. So on down the carport. The last piece should overhang the Gable Trim at the other end of the carport 1/2". The measurement of overlap is variable due to the size of the carport.

Don't just dream it, build it!

METAL ROOFING SUPPLY

4061 Highway 157 // Steprock, AR 72081
501.728.2122 // metalroofingsupply.org