Ledger Board Lean-to Instruction Manual

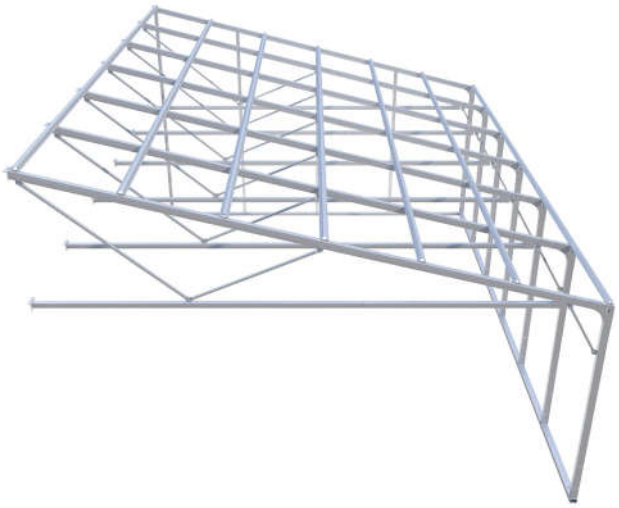
for 18’ x 24’2” x 8’/12’6” covers

ROOF ONLY

ROOF WITH GABLES

2-SIDED

2-SIDED WITH GABLES



FRAME ONLY

Our unique assembly process quickly transforms the individual pieces into a finished structure that will give you a lifetime of service. Great care has been taken to ensure complete satisfaction with your purchase. In the unlikely event that there are any missing or damaged parts, or if you simply need technical assistance, please call our Toll Free Hotline at 1-800-900-7222 and your questions will be addressed promptly. Thank you for choosing the VersaTube Building System.

ZINST-LT-LEDGER-18

REV 9/18

Contents

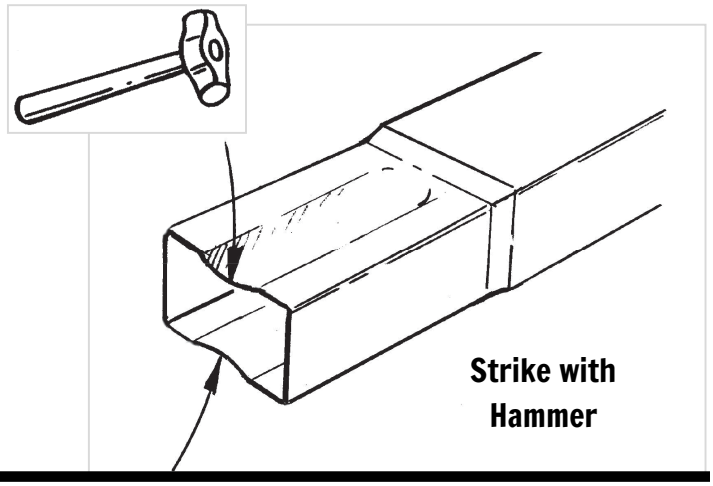
Safety, Hazard, and Maintenance Instructions

CAUTION	Read the following safety warnings and all instructions in their entirety prior to installation. If you have questions or are missing any parts, contact Mid-South Metal Products, Inc. (DBA, VersaTube Building Systems) customer service at 1-800-900-7222 before proceeding.
CAUTION	VersaTube Building Systems designs and manufactures framing products to meet minimum load requirements in most areas. It is the buyer's sole responsibility to determine the specific building code requirements applicable in the city and/or county of the state in which this product is being erected, and to ensure the product is installed with sufficient materials and in such a manner as to comply with the codes.
WARNING	Metal parts may get hot when exposed to high heat or direct sunlight. Avoid contact with skin and wear protective gloves and clothing to prevent the possibility of burns.
WARNING	Standing or walking on the structure could cause damage to the sheet metal panels. If you must walk on the roof, step within 1' of a major frame member. The structure must be properly braced to support human weight. Collapse of the structure may cause serious injury due to weight of components.
WARNING	Avoid installation on windy days as wind may create hazards during the installation process. Wind may blow material or cause partially-installed components to collapse prior to being secured or fully installed. The weight of the components or structure may cause serious injury if it should collapse.
WARNING	Metal conducts electricity and electrical shock hazards exist since the structure is made of metal. During installation or storage, keep the structure and all components away from electrical sources. Make sure that your selected location is away from power lines, underground cables, and any other source of electrical power. Serious injury or even death may occur if contact is made with electrical current.
WARNING	In the event that your structure is fully enclosed, be sure to provide proper and adequate ventilation and egress and ingress. Hazardous, poisonous or noxious substances should not be stored in the structures absent proper ventilation. Follow all warnings and instructions of the manufacturer of any substance stored in your building. Also, proper ingress and egress should be provided to prevent persons or children from being trapped inside the structure.
WARNING	If metal panels are selected to cover all or a portion of your structure, be careful of the sharp edges which may cause cuts or lacerations. Wear protective work gloves and suitable clothing for protection and always take care when handling metal parts.
NOTE	The VersaTube Building System is an all domestically produced galvanized tubular steel framing system. Maintenance is required twice annually on particular areas of the framing system i.e. ‘'weld seams" and "cut or raw ends". This maintenance is performed by applying any "Zinc coated" silver spray paint found at local mass merchant or paint store to these areas twice annually or every six (6) months.
NOTE	All sheet metal cladding applied to the VersaTube frame are attached with self drilling screws with a rubber washer. These screws produce small shavings when drilling through the cladding. If the shavings are allowed to sit on the sheet metal for an extended period, rust spots will form and promote deterioration. Metal shavings must be brushed off after installation of the sheet metal. Claims reported against rust spots will not be honored by VersaTube Building Systems.

ATTENTION:

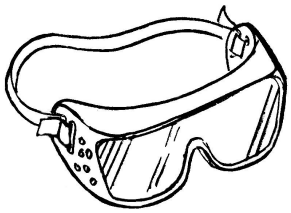
IT IS IMPORTANT THAT YOU READ THE FOLLOWING NOTE BEFORE STARTING THE ASSEMBLY OF YOUR SHELTER

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.



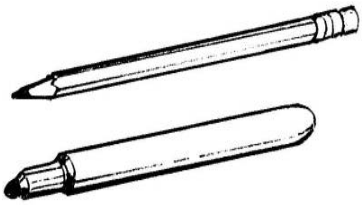
What you'll need

Work Gloves

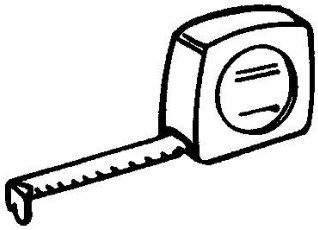


Safety Goggles Or glasses

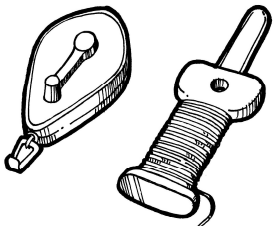
2 Step Ladders



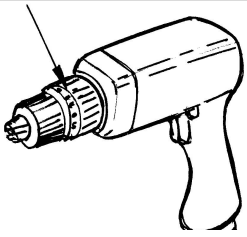
Pencil/Marker & Felt Marker



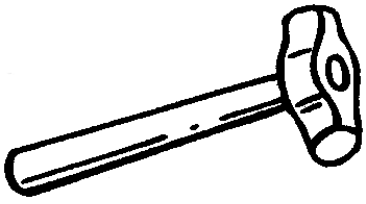
Tape Measure



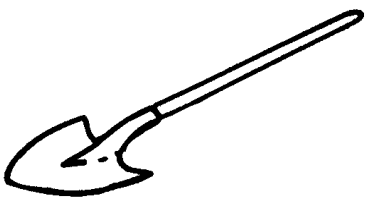
Chalk Line & Mason Line or Nylon String



Cordless (14 or 18 volt) or Electric Screw Gun with 5/16" Socket Drive



Hammer



Shovel or Post Hole Digger

Items you may need

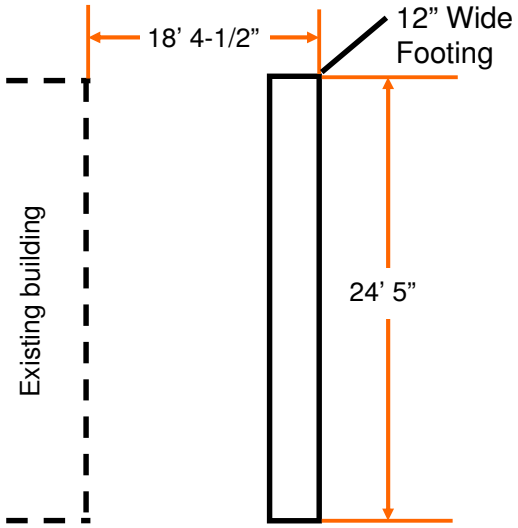
Hammer Drill, Masonry Drill Bit 1/2" x 8", vise grip or other quick clamp (to assist to plumb frame or clamp sheet metal), adjustable wrench and open ended wrench, 3/4" & 1/2"

PARTS LIST

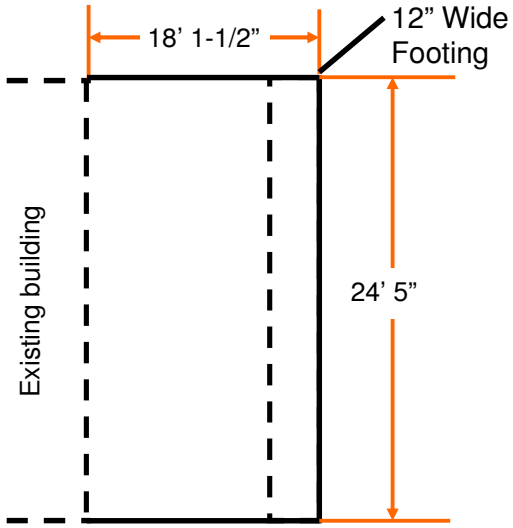
Part Number	Description	Quantity
71-4783	Starter Base Rail	1
71-4782	2-Pin Extension Rail	2
71-5008	Side Post	7
HE-9950	Rafter - 99.5"	14
PP-50A	Lean-To Ledger Board Bracket	7
BK-40	Eave Corner Bracket	7
7700-09600	8' Hat Channel	21
74-PP-50A	Collar Tie Ledger Board Bracket	7
BK-60/61	Collar Tie Brackets	7 each
7400-4375	2" X 2" X 25.75" (Collar Tie Horizontal)	14
74-1110	Center Stringer for Collar Tie	7
76-7375	76.75” Web Brace	7
76-4600	46” Web Brace	7
76-2400	24” Web Brace	7
BK-65	Web Brace Bracket	35
79-5582/83/84	Nut, Bolt and Washer for Web Bracket	35
ANC-7	1/2" x 7" expansion anchor	7
71-9999	70pc. Bag of Framing Screws	10

Foundation for Lean-To Covers

The VersaTube shelter frame is designed to be placed on a foundation that is level side-to-side and front-to-back. A minimum of 12” wide strip footings are suggested at a minimum depth of 8”. Check with your local building official for necessary footing depth. You may also use a slab with thickened edges or concrete piers (not shown). If a new slab is being poured, the slab dimensions need to be at least 18’ 1-1/2”W x 24’ 5”L . A 1-1/2” x 1-1/2” sheeting ledge can be cut out of the footing if planning to add side sheet metal later.



Strip Footing for
Centered Base Rails



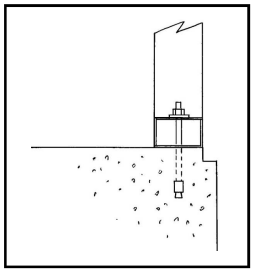
Slab with Footing for Base Rails
1-1/2” from Edge of Slab

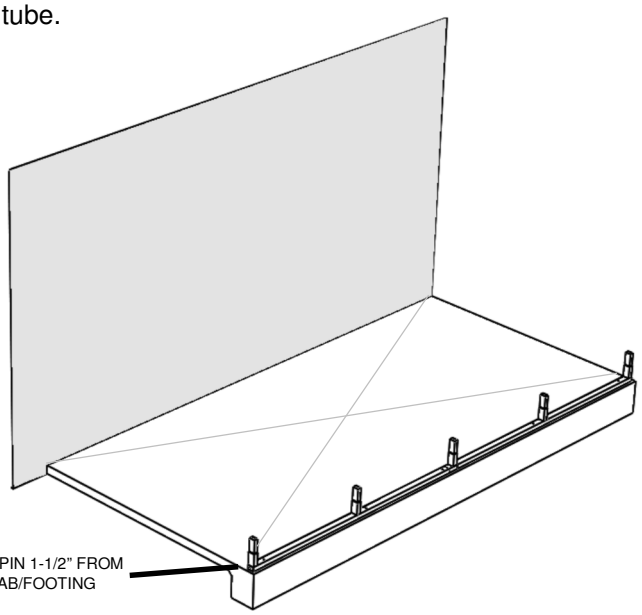
Frame Assembly

STEP 1: BASE RAIL ASSEMBLY & ANCHORING

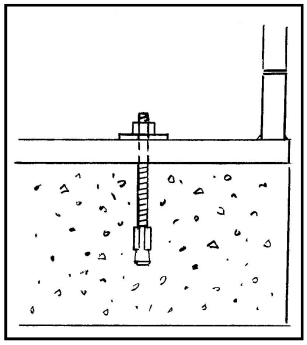
There is one run of base rails; (1) starter base rail with three vertical pins and (1) extension base rail with two vertical pins and a swage. Insert the extension base rail in to the starter base rail. Set the overall length dimension from the front of the first vertical pin to the back of the last vertical pin at 20’-2”. Now, fasten the joint on top with two framing screws. Place your base rail assembly 15’ away from your existing wall (from wall to outside of base rail). Make sure your base rail is parallel to the existing wall by measuring in multiple places. Once in place, use a 1/2” concrete bit in a hammer drill to drill a 5” deep hole in the slab/footing. Use the anchor hole in the tube as a guide. Place the washer and nut on the top of the anchor with about 2 threads showing. Tap the anchor into the hole with a hammer and tighten the nut until it is tight against the base rail. Make sure not to crush the base rail tube.

FRONT VIEW





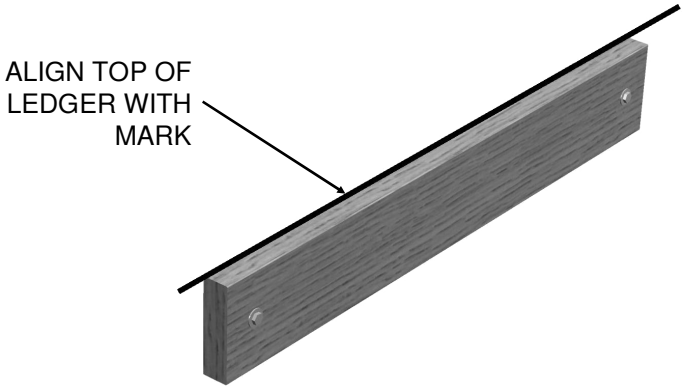
SIDE VIEW



Frame Assembly (continued)

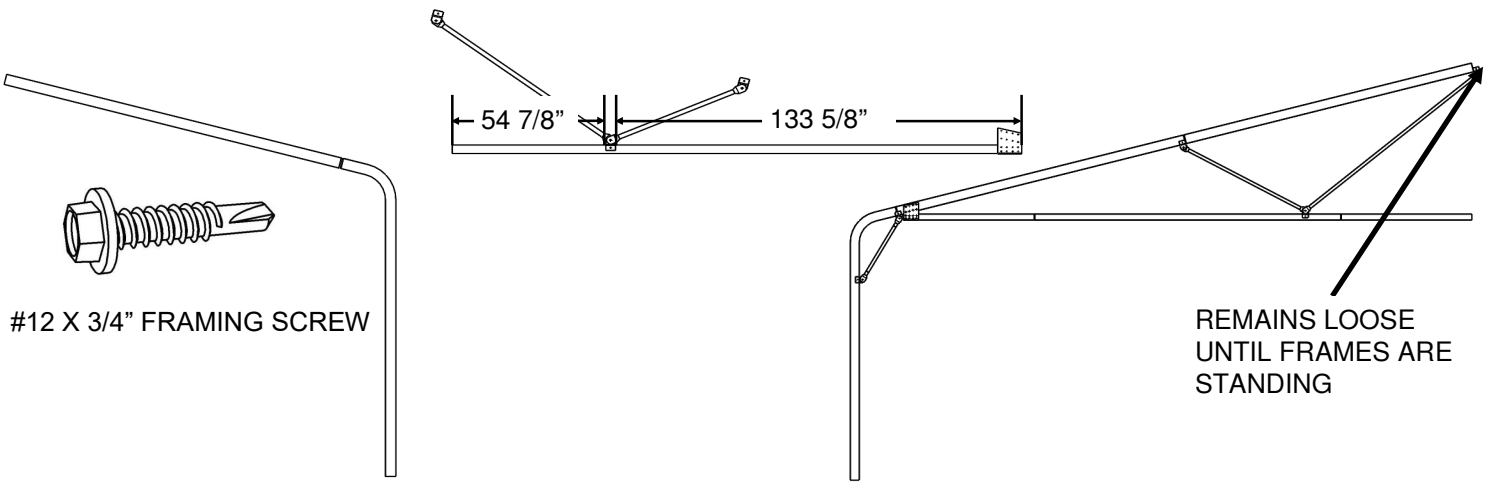
STEP 2: INSTALLING LEDGER BOARDS *(Not Included)*

On your existing wall, make one mark at 12' 5-1/2" and one mark at 8' 1-7/8". These marks will be the mark for the TOP of your ledger board. It is suggested that your ledger boards should be at least 2" x 6" lumber (for rafter) and 2" x 4" lumber (for collar tie), preferably pressure treated or weather resistant. Your ledger boards will need to be at least 20' 2" long. Align the top of each ledger board to the marks you made earlier. Attach approximately every 2' with the appropriate anchor (wood to metal screws, masonry screws, lag bolts, etc.; not provided).



STEP 3: ASSEMBLING FRAME COMPONENTS

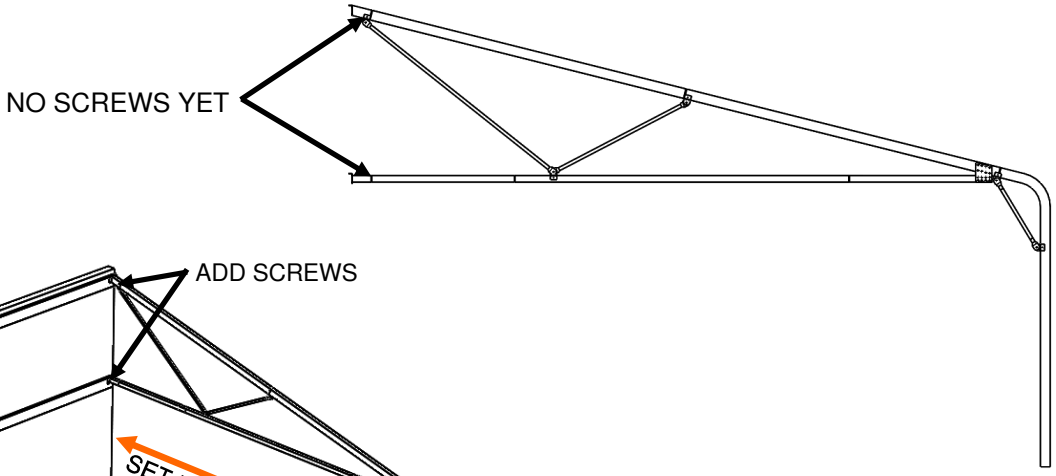
On the ground, assemble (1) Side Post and (2) Rafters. Before you fasten the joints with screws take a measurement across the top and bottom of the assembly as shown. It is easiest to set stakes 14' apart and use those as reference points for your assembly. This outside measurement is the outside size of your building. Screw the Side Post to the Rafter with (4) Framing Screws, then add the next Rafter. Separately, attach the Web Braces to the Collar Tie Horizontals (43 3/4" piece, center stringer, and another 43 3/4", all attached with 6 screws) from the end of the horizontal by using (1) BK-65 Web Bracket and 3 screws. Set the bracket 54 7/8" from one end of the horizontal and 133 5/8" from the other end, then attach with 3 screws. Connect the 73 3/4" and 46" Web Braces to the Web Bracket with the nut, bolt and washer. Do not tighten yet. Attach another Web bracket to the non-connected end of the Web Braces. Attach your Collar Tie Bracket on the 133 5/8" side with (8) Framing Screws. Attach the Collar Tie Assembly to the Side Post and Rafter. Set the end of the Collar Tie 18" from the outside of the Side Post. Add (8) Framing Screws to the Collar Tie Bracket to attach to the Rafter and add (3) Framing Screws to the lower Web Bracket to attach again to the Rafter (the top bracket will be left unattached until frames are standing). Measure out 1" from the end of the Collar Tie and make a mark. This will be the location of the upper Web Bracket for the 24" web brace. Attach the upper Web Bracket with 3 screws. Attach the web brace to the bracket with a hex bolt, lock washer and hex nut. (Do not tighten at this time) Loosely attach a Web Bracket to the lower end of 24" Brace and place it against the side post. Re-check the building dimension. Now, attach the face to the side post with a screw, remove the hex nut, let the bolt drop down and install the two screws in the side of the Web Bracket. Now, reinstall the bolt, lock washer and nut. Repeat for all 5 frames. Add both ledger board brackets without screwing them to the rest of the framing (screws will be added after frame dimensions are set). Set one roof/wall frame assembly on the vertical insert pins at the back of the cover. Check the width dimension at the bottom and right before the bend in the side post; make sure it is measuring 18'. Now, install the other six frame assemblies. Attach the side posts to the base rail pins with two framing screws on the back side of the assembly.

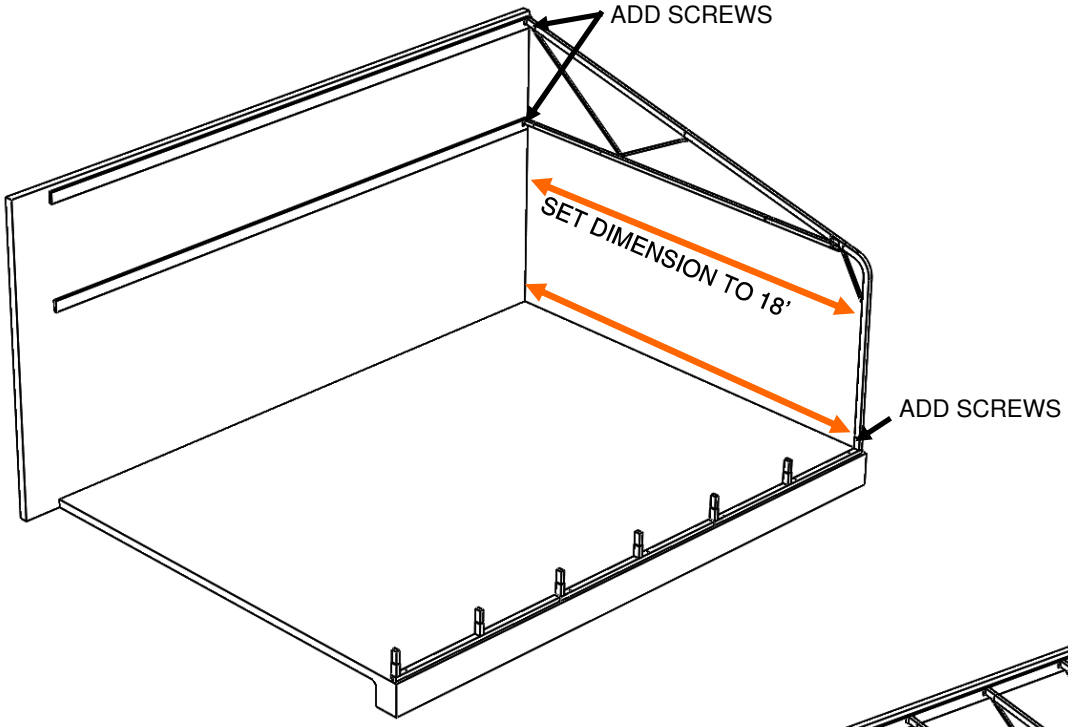


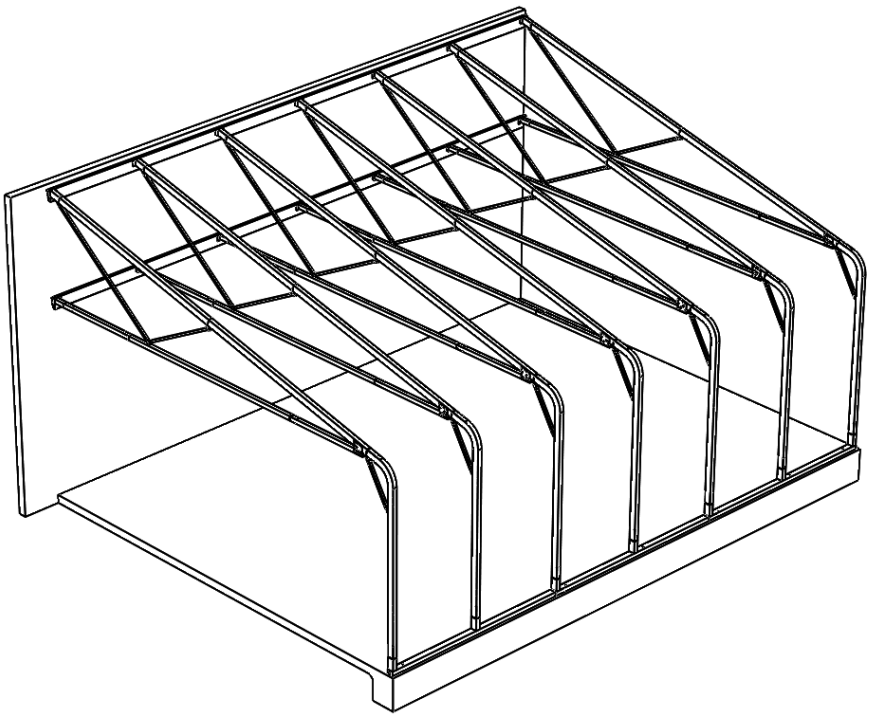
Frame Assembly (continued)

STEP 4: ATTACHING FRAMES TO LEDGER BOARDS

Add both ledger board brackets without screwing them to the rest of the framing (screws will be added after frame dimensions are set). Set one roof/wall frame assembly on the vertical insert pins at the back of the cover. Check the width dimension at the bottom and right before the bend in the side post; make sure it is measuring 18. Now, install the other six frame assemblies. Attach the side posts to the base rail pins with two framing screws on the back side of the assembly. Once the dimension is set, add (4) Framing Screws to ledger board bracket joints and attach the remaining Web Bracket.



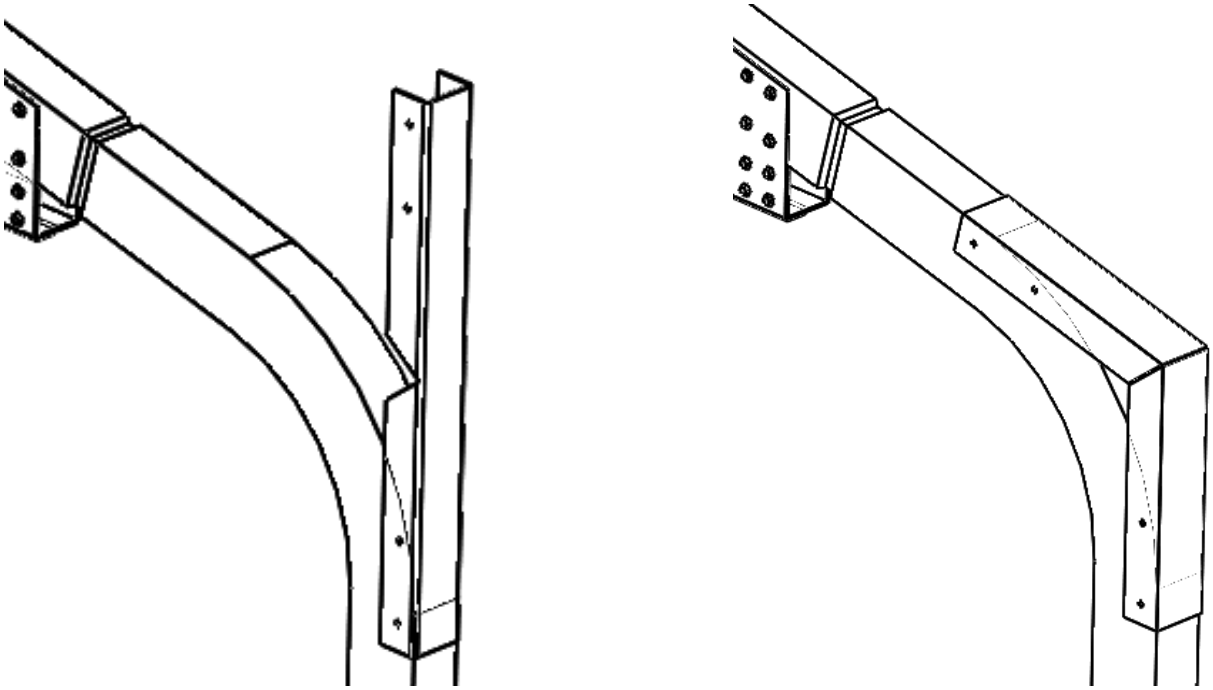


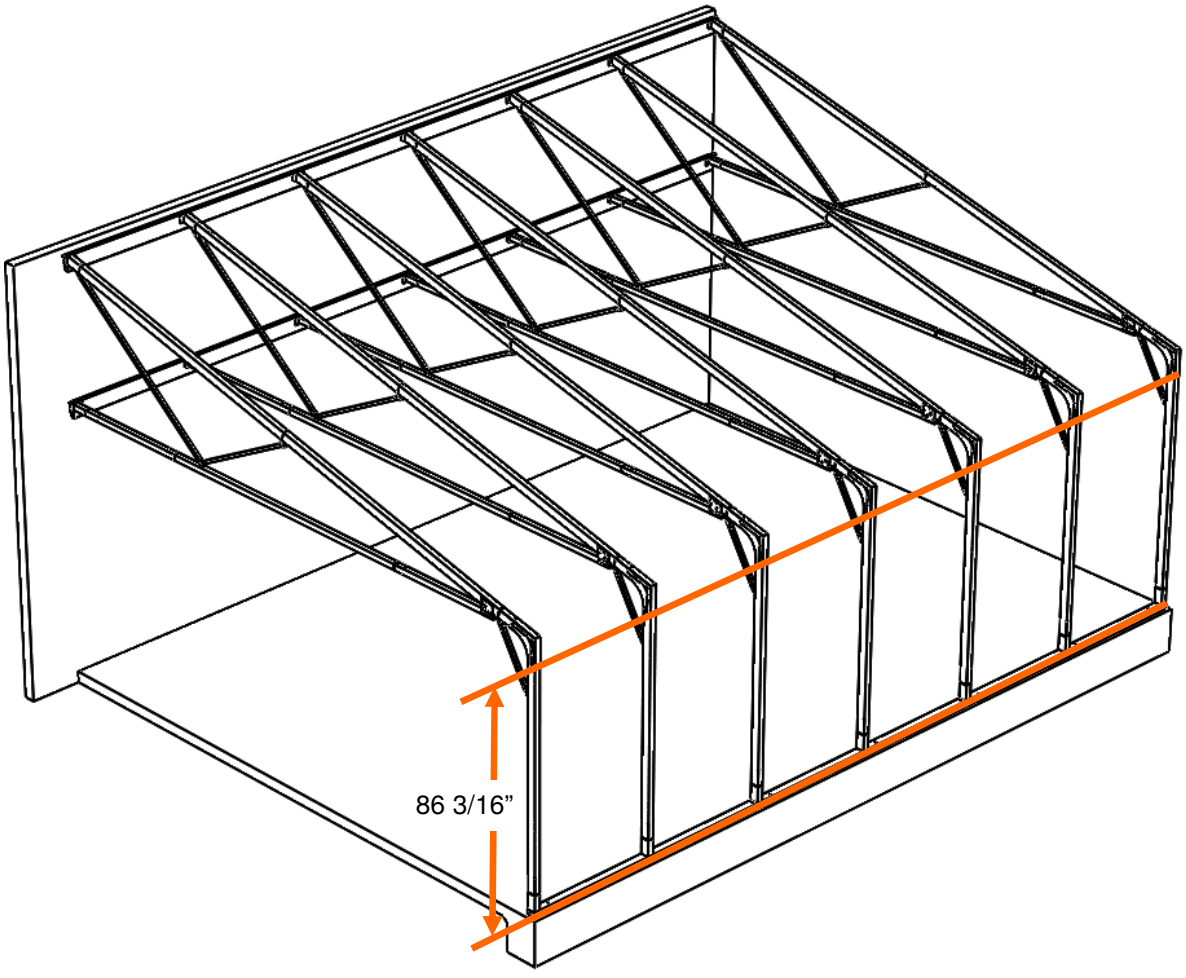


Frame Assembly (continued)

STEP 4: INSTALLING CORNER BRACKETS

Make a mark on each Side Post 86 3/16” from the top of your slab/footing. Attach the unfolded Corner Bracket with (4) Framing Screws. Fold over the Rafter and connect with (4) more Framing Screws. Repeat for all frames.

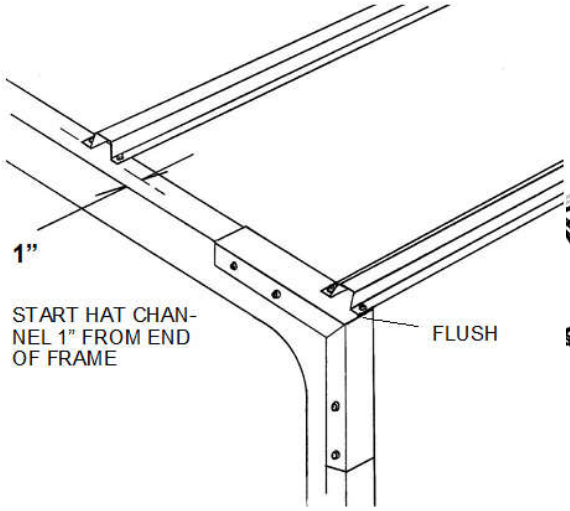


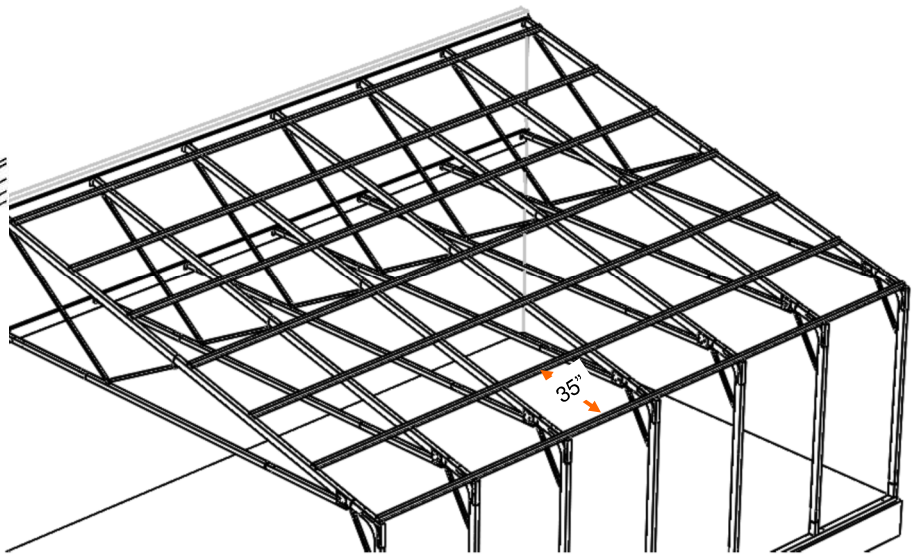


Hat Channel Assembly

STEP 1: ATTACHING ROOF HAT CHANNEL

There are (7) runs of hat channel on the roof, made of (21) 8' pieces. After checking to make sure each frame is plumb and square, attach the first 8' flush with the eave corner, starting the Hat Channel 1" away from the front of the first frame. Attach Hat Channel at each frame intersection with (2) Framing Screws. The end of the first Hat Channel will fall 1" in to the third frame. Attach the next Hat Channel by butting it to the first piece, flushing it against the eave corner and using (2) Framing Screws per frame intersection. Install the runs of Hat Channel 35" on center, following the same installation as the first piece of Hat Channel.





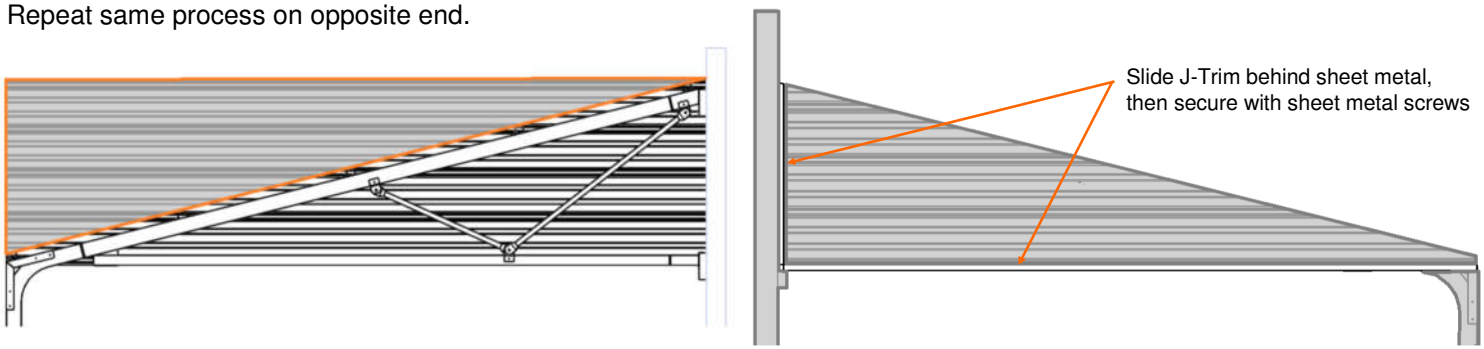
Installing Gable Sheet Metal *(if applicable)*

***** If you did not purchase the Gable Sheet Metal option, proceed to the next step *****

Description	Quantity
18'0" Panel	2
6'0" Panel	2
10'6" J-Trim Channel	6

STEP 1: ATTACHING SHEET METAL AND J-TRIM TO FRAMES

Place the 18'0" panel against the first frame, keeping the overlap edge flush against the lowest edge of the horizontal collar tie. Clamp in place, then mark the back side along the rafter line. Remove the panel and cut the panel along the marked line. Clamp the panel in place and attach to the frame with sheet metal screws across the rafter and down the collar tie vertical approximately every 2'. Clamp the 6' panel above the 18' panel, repeating the marking, cutting and attaching method. Before securing the panel anymore, take a measurement from the top edge (against existing wall) to the bottom of the collar tie. A piece of J-Trim will be cut to that length. Also, use (2) pieces of J-Trim, cutting a piece of J-Trim to 15' to be used across the collar tie. Once both pieces are cut and in place, secure the rest of the panel with sheet metal screws approximately every 2'. Repeat same process on opposite end.



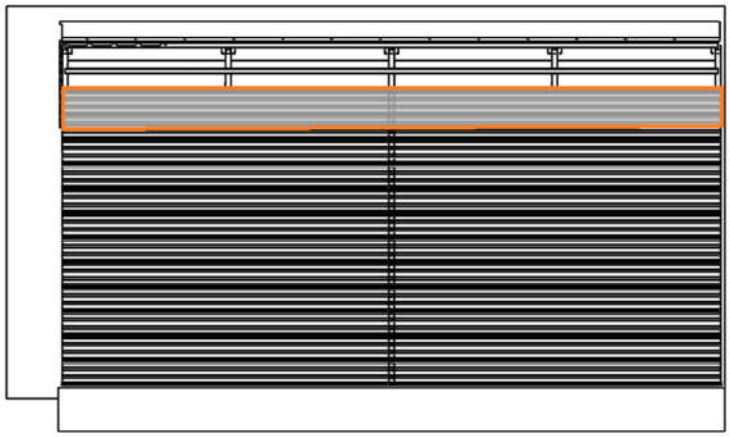
Installing Side Sheet Metal *(if applicable)*

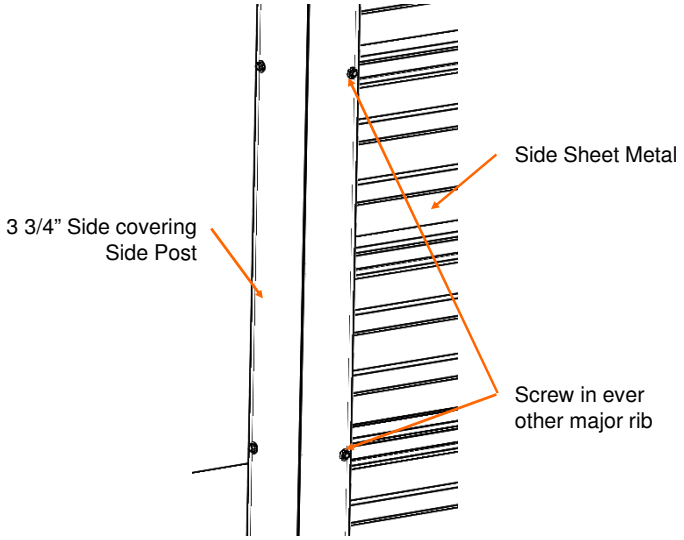
***** If you did not purchase the Side Sheet Metal option, proceed to the next step *****

Description	Quantity
12’2” Panel	6
3” X 3 3/4” X 10’6” Angle Trim	2

STEP 1: ATTACHING SHEET METAL AND ANGLE TRIM TO FRAMES

Place the overlap edge of the first 8’2” panel along the bottom of the base rail and the edge flush with the first frame. Make sure the panel is square with the frames, then clamp in place. Attach with sheet metal screws, 1 per major rib across every frame intersection. Keep the screw approximately 1” from the major ribs. Continue to the next panel along the base rail using the same installation method. Move up to the second row, keeping the overlap edge closest to the ground and installing with the same method. Repeat for the next panel. For the top run, clamp the panel in place and make a mark to use when cutting the excess metal away. Once cut, install and repeat for the last side panel. Install the 3” x 3 3/4” trim with the 3 3/4” face covering the exposed side post. Attach to sheet metal with a screw in every other major rib. Mimic the same screw pattern on the side post.

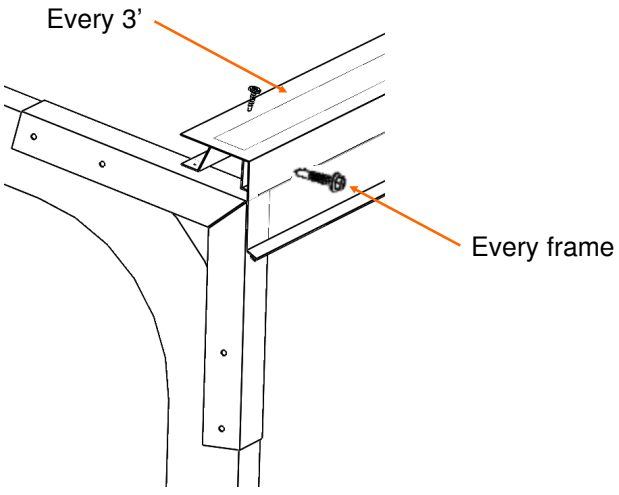




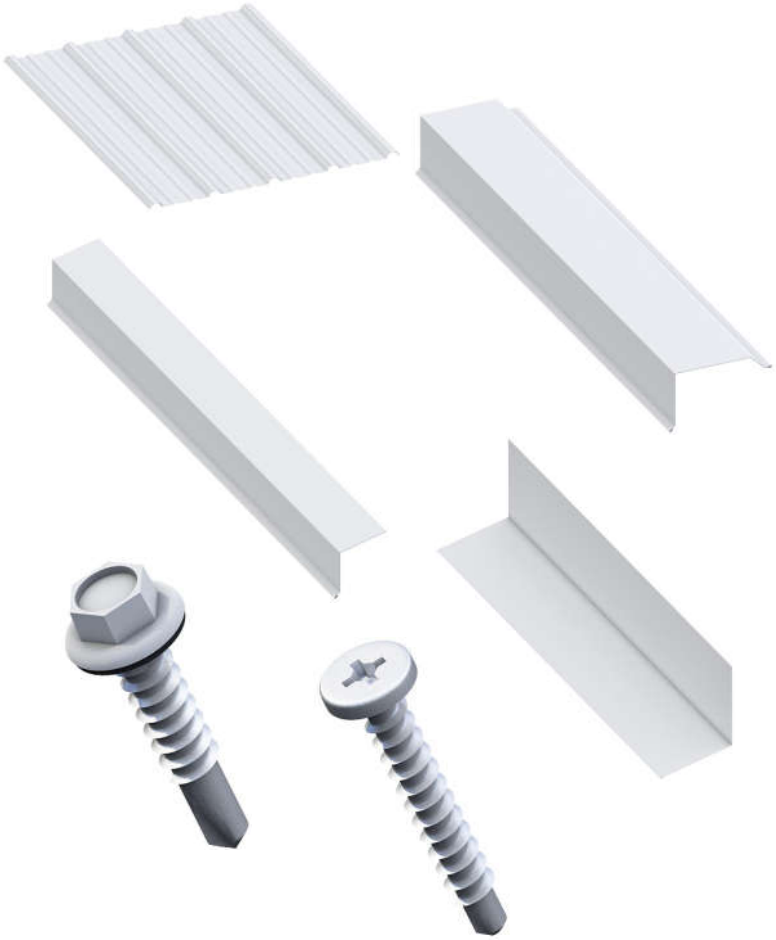
Installing Eave Trim

STEP 1: ATTACHING EAVE TRIM TO FRAMES

Place your eave trim on top of the first run of hat channel, flush against the front and side of the first frame. Drive pancake screws through the trim into the top of the hat channel approximately every 3’. Once secured, add one frame screw to the front face at every frame intersection. This is intended to keep the eave trim secure during high wind situations. The 2 pieces of eave trim will overlap; add a painted screw in the overlap.



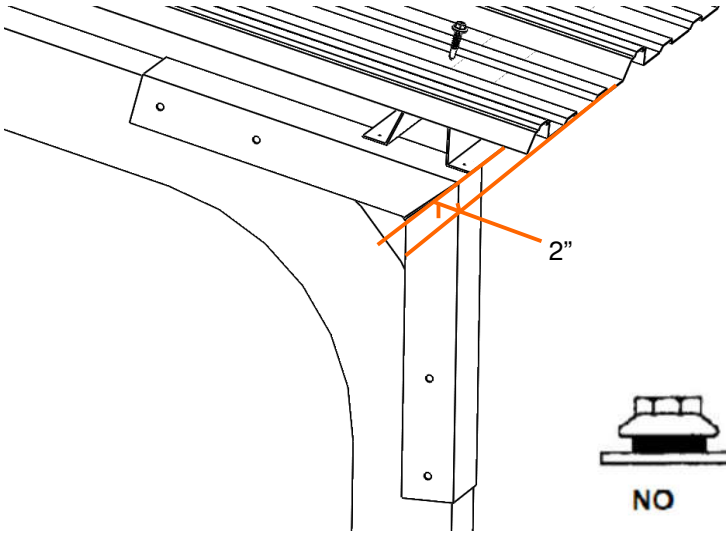
Installing Roof Sheet Metal

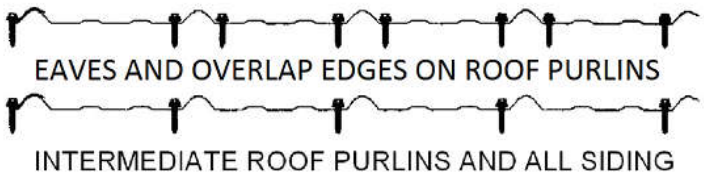


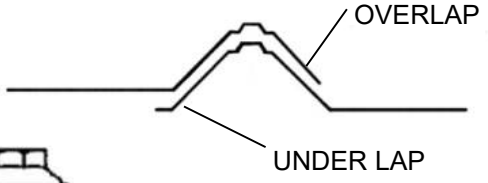
Description	Quantity
18’9” Panel	8
10’6” Gable Trim	4
10’6” Eave Trim	3
10’6” Transition Trim	3
250pc. Bag of Painted Sheet Metal Screws	1
Pancake Screws	14

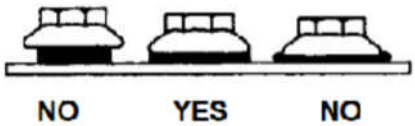
STEP 1: INSTALLING THE ROOF PANELS (18’-9” PANEL)

Place the first panel at the front of the roof. Position the overlap edge of the panel to the front, flush with the front of the carport frame. The lower edge of the panel should be positioned approximately 2” from the lower edge of the first hat channel or the edge of the corner bracket. 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. 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.





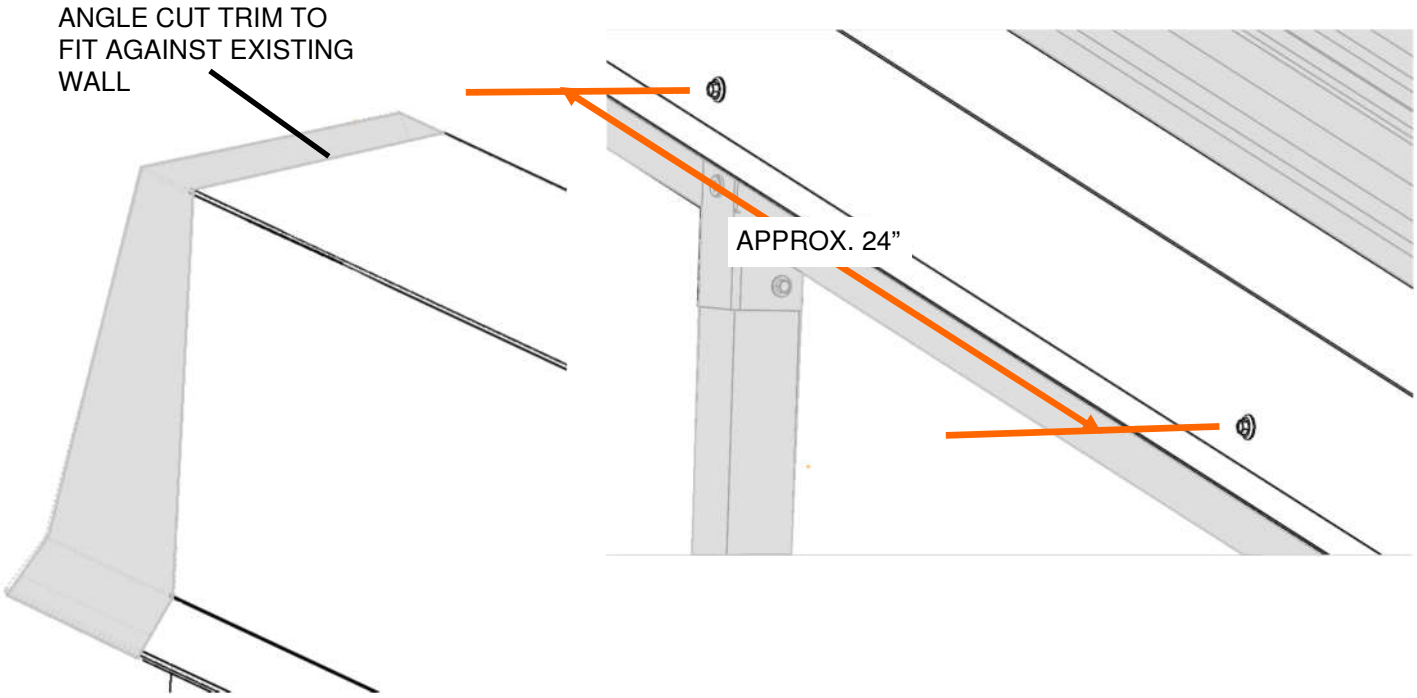




Installing Gable Trim

INSTALLING GABLE TRIM

Gable trim will trim up the gable ends of the carport roof. You will use (2) 10’6” pieces of trim on each end of the lean-to starting at or flush with the roof sheet metal. Starting from the lower end, attach the Gable Trim by placing a screw about every 24” into the front surface of the trim as well as a screw on top at each hat channel. Overlap the bottom piece with the second piece of Gable Trim. The upper Gable Trim piece will need to be angle cut on the end that will be touching the existing wall and trimmed to only have to 2” of overlap.



Installing Transition Trim

INSTALLING TRANSITION TRIM

Starting at one end of the lean-to, place a piece of 10’6” transition trim on top of the roof sheet metal and gable trim. Before screwing the transition trim down, slide an Outside Closure Foam Strip between the transition trim and the roof sheet metal. Attach to the roof metal with a Sheet Metal Screw at every major rib. If possible, tuck the vertical piece of the transition trim under the existing wall’s sheeting. If it is not possible to conceal the vertical part of the trim, it is suggested to caulk or weather proof between the existing wall and the transition trim. Secure transition trim to exist wall with the appropriate fastener (masonry screws, wood screws, etc.)