DURA-LOCK GABLE ROOF

Installation Instructions

Read instructions before starting the job. They explain the steps required to produce a finished product that will meet factory specifications. **All references to "Left and Right" are while facing the home.**

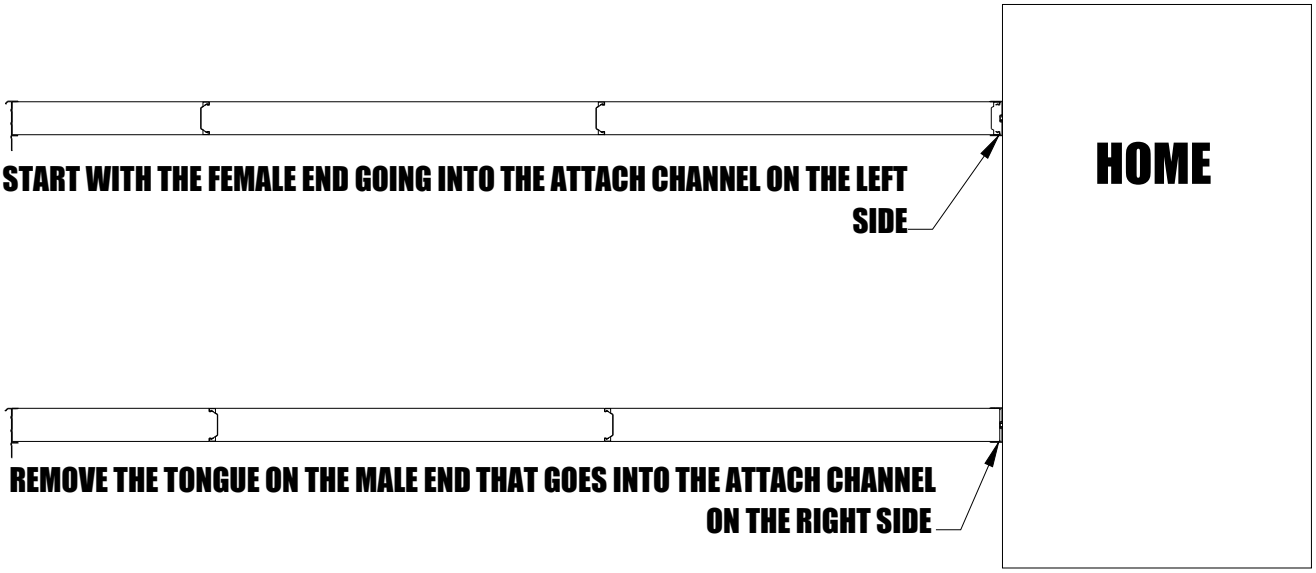
Check the material received.
Match your shipment with the bill of Materials. If there is a shortage or wrong material, call Dealer Service immediately.

Safety is Important!
Wear Safety Glasses and Work Gloves. Follow all safety practices while assembling and installing this product.

DURA-BILT PRODUCTS, INC. P.O. Box 188 Wellsburg, N.Y. 14894
Dealer Service 1-570-596-2000 E-Mail info@durabilt .com

Follow instructions for components thru page 13. Roof Panels are to be installed as illustrated below.

FOR DURA-LOCK PANELS ON A DURA-LOCK GABLE ROOF FOR 6', 10', AND 14' PROJECTION



The female end of the first 4' wide Panel will be installed in the Attach Channel on the left side. On the right side, you must trim off the male end of a 4' wide Panel and use it as a starter panel. You won't have to trim your front panels. They are already done.

Note: 2' wide Panels are installed last.

Now return to page 14 to continue the installation.

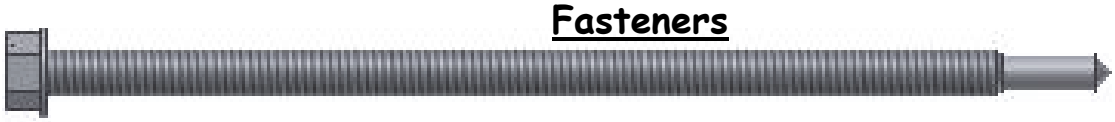
Tools Needed

Drill Level Caulk Gun Hammer
Tape Measure Screw Gun 9/32 Drill Bit Chalk Line
Circular Saw Hack Saw With Carbide Blade Razor Knife
Long 11/64" Drill Bit 7/32" Drill Bit 5/16" Drill Bit Clamps

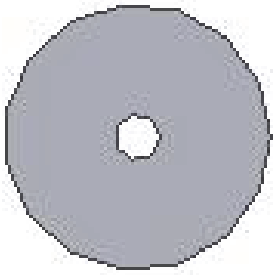
1/4", 3/8", 5/16", 7/16"
Nut Driver Bits with Magnetic Head

Hardware and caulk: Sufficient quantities provided for the job.

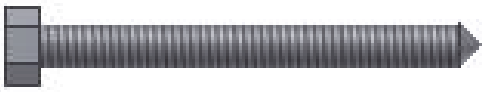
Fasteners



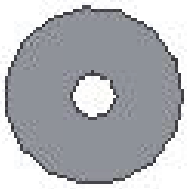
5" Self Drilling Screw for 3" Roof
6" Self Drilling Screw for 4" Roof
8" Self Drilling Screw for 6" Roof



EPDM BONDED WASHER 1/4" X 1-1/2"



SHEET METAL SCREW 1/4" X 2-1/2"

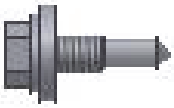


FLAT FENDER WASHER 1/4" X 1"

HEX WASHER HEAD SCREW #12 X 2"

#12 X 3/4"
Self-Drilling Screw

5/16" X 1" Bolt and Lock Nut

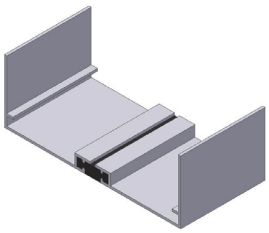


#12 X 3/4"
Self-Drilling Screw
With EPDM washer

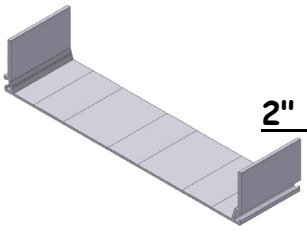
#8 X 1/2"
Self-Drilling Screw

#12 X 1"
Self-Drilling Screw

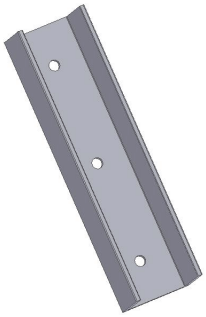
Component and Hardware Descriptions



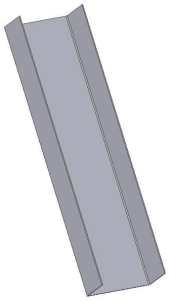
Attach Channel: "C" Channel with thermal barrier used on each side of roof to attach the Gable Roof to the home.



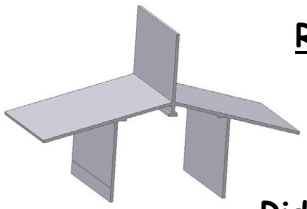
2" x 8" Support Beam: A two-piece aluminum extrusion is screwed together to form the main center support.



Support Beam Bracket: Three are provided--one attaches to the home. One attaches to Center Support Column on side facing the home. The third one is on opposite side of the Center Support Column.

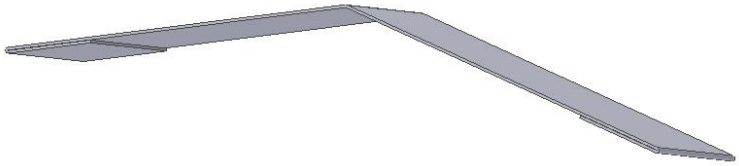


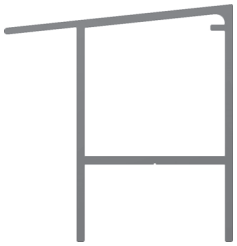
Support Beam Front Cap: Made out of .030 smooth-finish aluminum used to cap off the front of the 2" x 8" Support Beam.



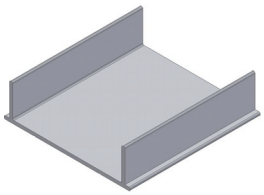
Ridge Beam: Attaches to the top of Support Beam. Roof Panels rest on it.

Ridge Cap: .030 smooth finish aluminum used to cover the 'Peel 'n Seal'.

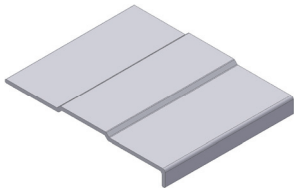




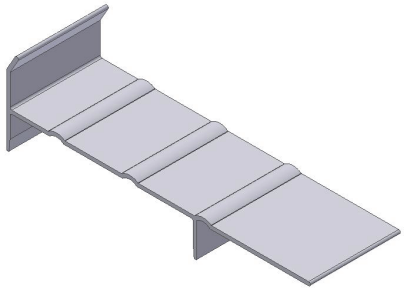
Side Support: (Same as Front Header for Straight Line Roof.) Used on Left and Right sides to support Roof Panels.



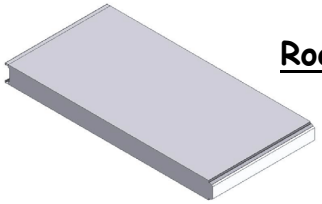
Front Header Cover: Used to trim off the underside of the Side Support.



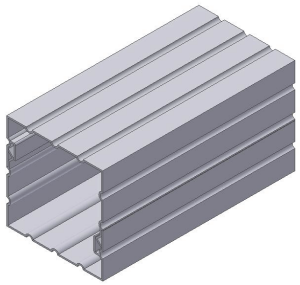
ASRE Gable End Clamp: Used to trim off any possible gap where the panel meets the Side Support.



Fascia/Side Trim: Used to trim the front and side of the roof.



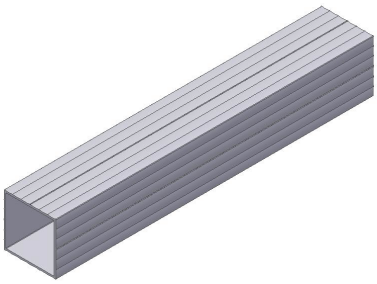
Roof Panels: 3", 4", or 6" Dura-Lock Panels, four feet wide, cut to length at the job site.



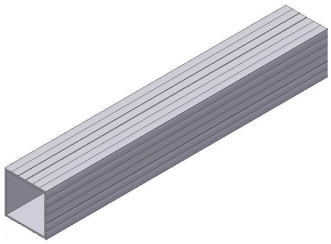
Center Support Column: The Support Beam is attached to this column.

Side Support Column: Is assembled to the Side Support Post under the Side Support.

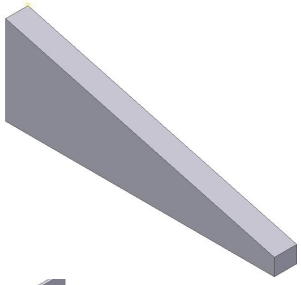
Continued...



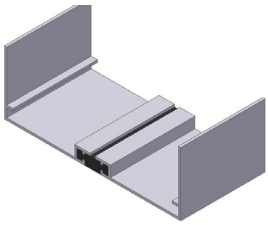
Side Support Post: Attaches the Side Support to the Deck.



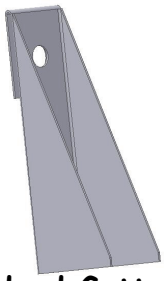
Post Insert: Inserted inside the Side Support Columns.



Front Gables: 4" thick and are cut to size at the job site.



Gable Attach Channel: "C" Channel with thermal barrier used to frame Front Gable. Is made to accept 4" wide Front Gables.



Gutter Wedge: Hangs on the back of the gutter. Used to level the gutter.

Standard Gutter with Downspouts: Provided with hangers, straps, gutter wedges, and hardware.

Roll Insulation: Use to fill the "V" shaped gap between roof panels at top of roof.

Six or Twelve-inch "Peel 'n Seal" Used to seal the "V" gap at top of roof after Roll Insulation has been installed.

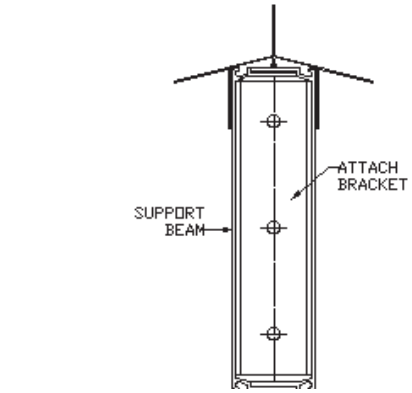
Skylights: (Optional extra) Supplied installed in roof panels.

Installation Instructions

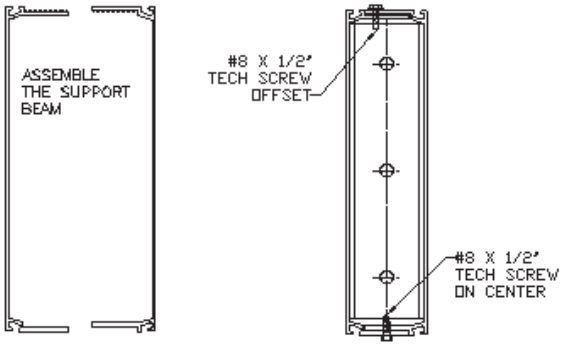
Support Beam

1. A template is provided, fully assembled, using 'slices' of the Support Beam, Ridge Beam and a pre-drilled Attach Bracket. This is provided so you can accurately mark the position for Attach Bracket on the home. This step is critical for proper installation of this roof. Used to mark the location of the Attach Bracket, which was determined when the job was measured prior to placing order for Roof.

With the Template in place, mark the screw locations for the Attach Bracket on the home. Be sure you have enough clearance for the thickness of roof panels (3", 4", or 6") and flashing that will rest on top of the Ridge Beam. Fasten Attach Bracket to home with three (3) 1/4" x 2-1/2" screws with fender washers. Remove Template from Bracket.

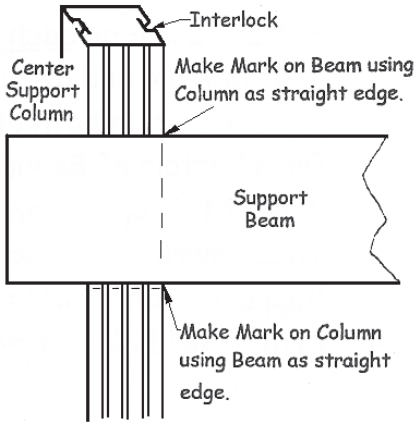


2. Assemble Support Beam, making sure screws on the <u>top</u> are off-set. Bottom screws are centered. See Drawing. Position screws 12" apart.

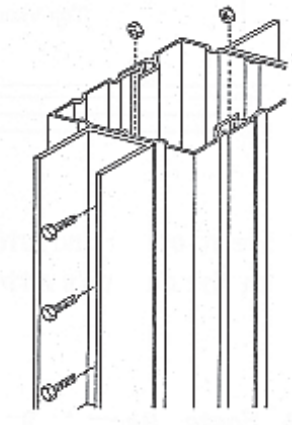


3. Assemble the Center Support Column (The Longest One) by snapping together.

4. Insert Support Beam into the Attach Bracket on home. Stand Center Support Column in plumb position, with helper holding in place. **<u>"Very important"</u>** **<u>Then level Support Beam</u>**, while holding it against the side of Support Column. See Drawing. Mark position of the **bottom** of Support Beam on Column. Make all marks on side of Column *without* Interlock. Also, make vertical line on side of Support Beam, using home side of Column as your straight edge. Lower Support Beam and cut at line. Small piece of Support Beam will be used at front of Column.



5. **Cut Column to length.** Measure up the Column 7- 1/2" from your first mark and mark this position on the Column . This second or top mark is where you will cut off the Column to its proper length.

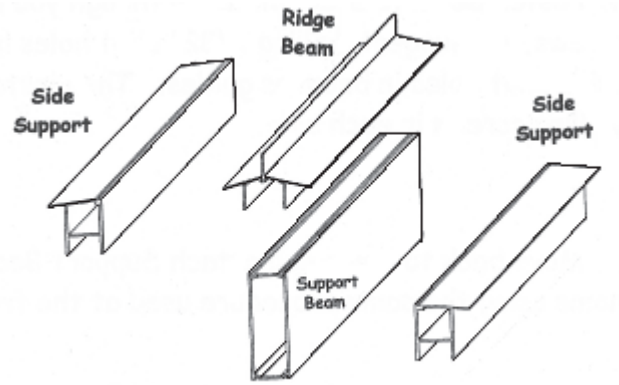


6. **Attach Support Beam Brackets.** Place one on home-side of Column and one on front of Column. Place each flush with top of Column.

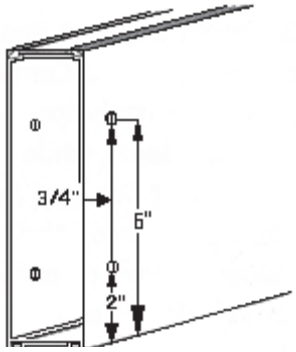
Holding Bracket centered in position on Column, and using pre-drilled holes in Bracket as guide, drill holes in Column using 5/16" drill bit.

Attach Bracket with 5/16" x 1" bolts and lock nuts. Tighten securely with box wrench while holding lock nut inside the Column.

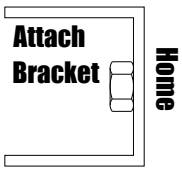
Structural Components
Of Roof System.



7. Mark a line on <u>each side</u> of Support Beam, 3/4" in from end of Support Beam. Then place marks on both of those lines at 2" up from bottom of Beam and 6" up from bottom. Repeat this operation at other end of Beam. These mark screw locations at each end of Support Beam to attach it to Support Bracket. Drill 7/32" holes as marked.



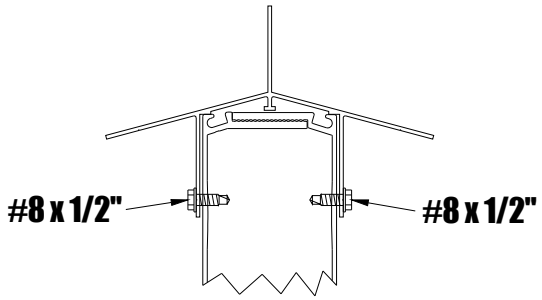
8. Raise Support Beam into position. Slide one end of Support Beam onto the Attach Bracket attached to home. **<u>Make sure the offset screws are on top.</u>**



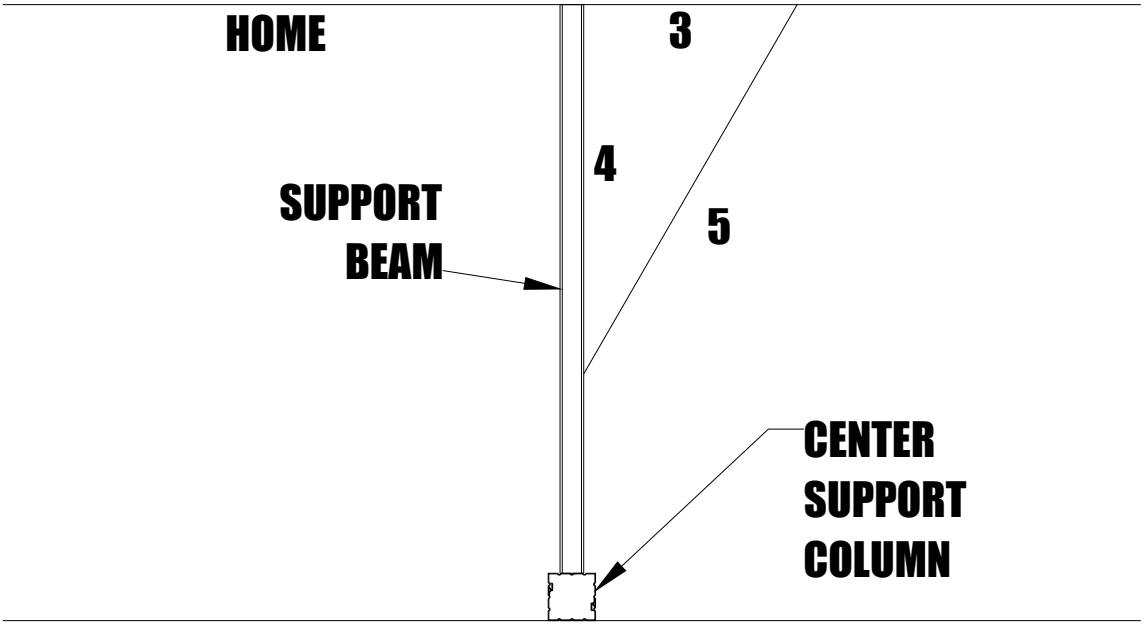
Move to other end, stand up Center Column in position on deck.
Push the Column's Attach Bracket fully into the Support Beam.
9. Fasten Support Beam to Bracket. Even though you will use self-drilling screws, we suggest drilling 7/32" pilot holes in both sides of Bracket, using pilot holes in Support Beam as guides. Then install the #12 x 3/4" self-drilling screws in each side.

10. Move back to home and attach Support Beam to the Bracket on home using the same procedure used at the front.

11. Measure length of exposed portion of the Top of the Support Beam to determine measurement for Ridge Beam. Cut Ridge Beam to size and attach to top of Support Beam with #8 X 1/2" screws, spaced 12" apart on each side. See drawing.

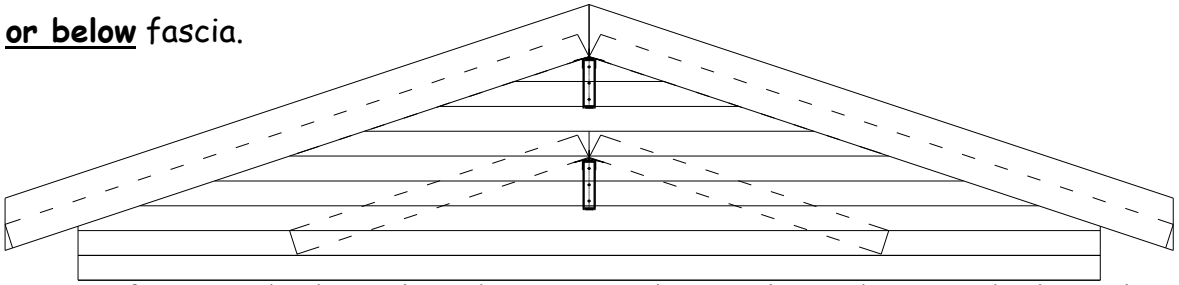


12. Using 3-4-5 method, make sure the Ridge Support Beam assembly is at right angles with the home. It is critical that the Support Beam and Side Supports are square with the home. If not, you will have serious problems keeping roof panels square as you install them.



Attach Channels

Illustration shows Attach Channel **<u>on</u>** fascia **<u>or below</u>** fascia.



1. Mark positions for Attach Channels on home, based on gable pitch. Attach channels are cut to length at the job site.

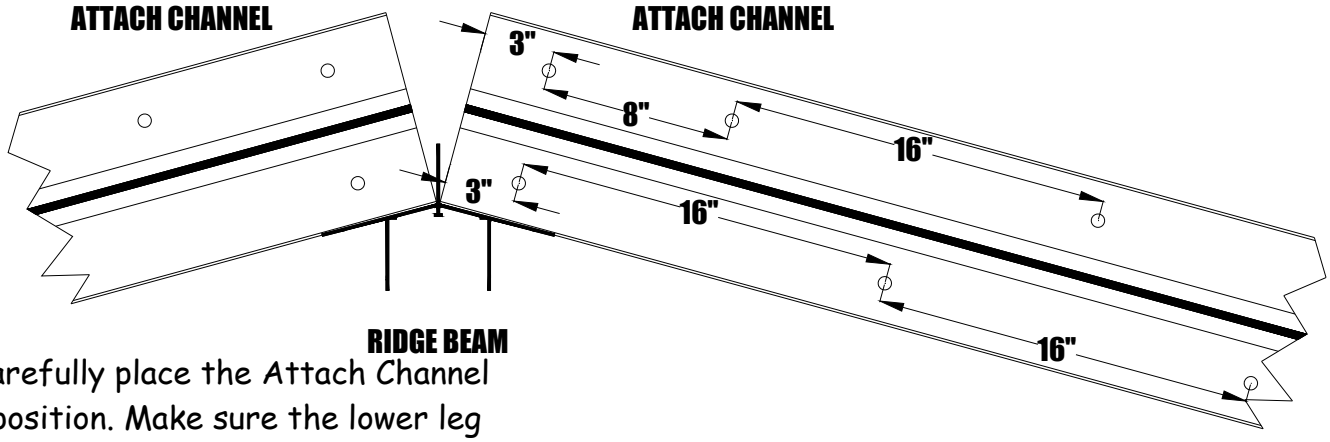
2. Prepare Attach Channels for installation by marking the screw locations on the home side of the Channels.

Start by making two marks -- 3" in from end of channel with each mark centered between the thermal barrier and side of channel. **See Drawing Below.**

Make your next mark on one side of thermal barrier at 8" from the starter mark and on the other side at 16". Then continue 16" apart on both sides to the other end.

<u>Note: This positioning may need to be altered so that Attach Channel screws will go into substantial framing members of the home.</u>

3. Drill 7/32" holes in Channel. Apply Black Tar Tape to back side of the Channel that will go against home and covering holes you drilled. Then remove wax paper from the Tar Tape.



4. Carefully place the Attach Channel into position. Make sure the lower leg of Attach Channel butts up against the <u>center vertical</u> leg of the Ridge Beam and rests on the angled leg.

Fasten Channel with #12 x 2" hex washer head screws installed in your pre-drilled holes.

5. Caulk joint between the Attach Channel and the home wall.

Side Supports

1. If when the Order was placed, it was made clear that the Gable would attach to fascia, but Side Supports would go back to the home, extra Side Support material has been supplied.

To figure proper length required, add together 48" for each full width roof panel and 23-1/8" for each half-panel (if used) on each side. Then add in the projection of the fascia on the home.

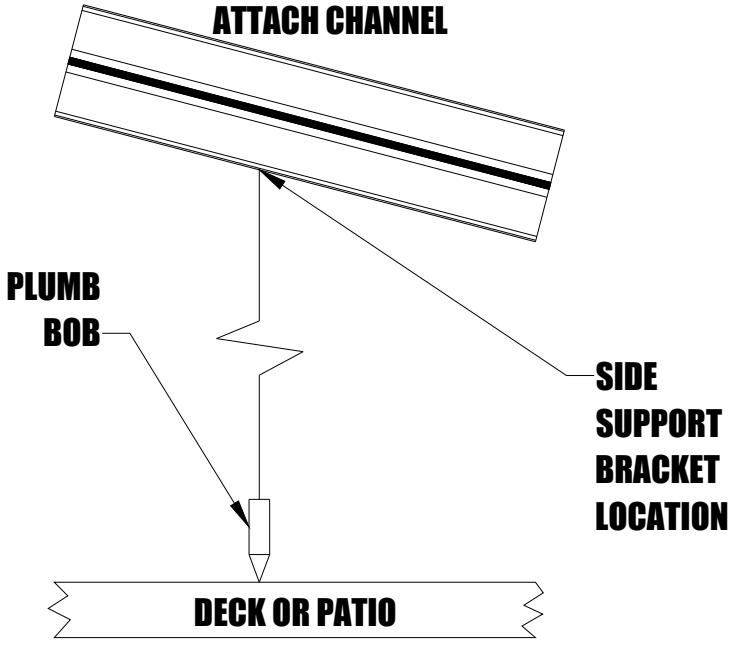
Those numbers added together give you the length of each Side Support. Cut each Side Support to that correct length.

2. Measure exact length from home-end of Support Beam to the exact center of Center Support Column. This is the length used to position the Side Support Posts from the home. The Side Supports will rest on the Side Support Post Insert. Mark side supports for Side Support Post location.

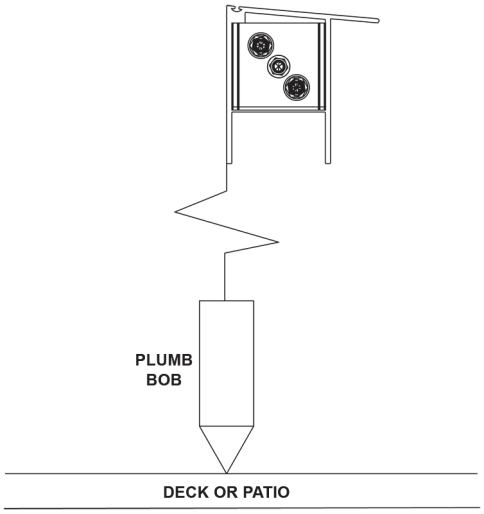
3. As when you positioned the Center Support Post, here again we stress that the Side Support Posts must be at right angles to the home.

A. Side Support locations are contingent on the placement of the Side Support Posts. Be aware that the front edge of deck or patio may not be square with the home and should not be used as a reference point to position the Side Support Posts. We suggest a simple procedure to position the Side Support Posts square with the home. **See instruction "C"** on page 12.

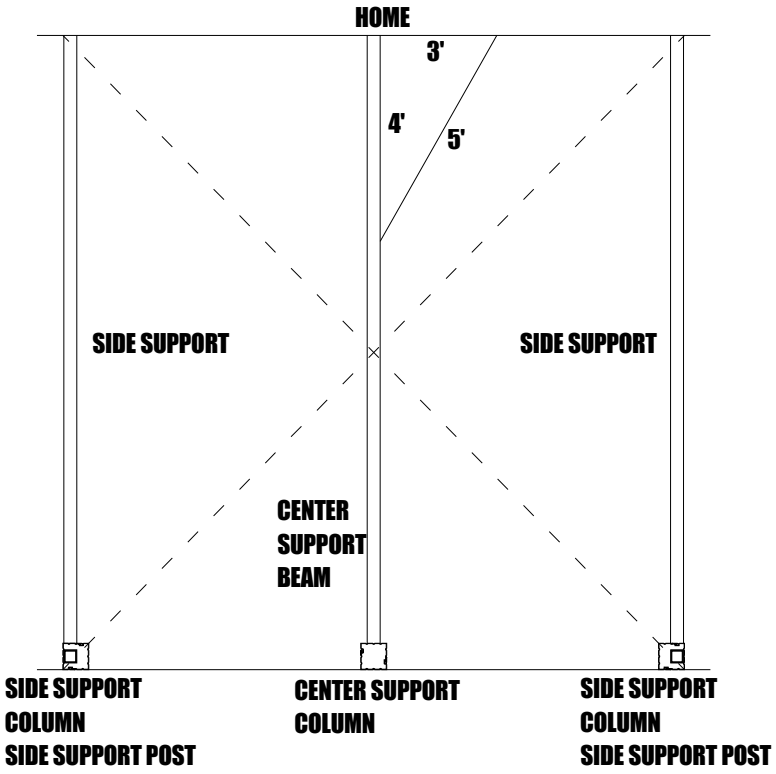
Based on the location of the Side Support Posts mark each Attach Channel to set the position for the Side Supports.



B. Mark the locations on the deck that are plumb with marks just made on each Attach Channel as well as the center of Support Beam. Measure the distances between center mark and each end mark: they should be equal. Use these measurements from center of Center Column to mark Side Support Post location on Deck.



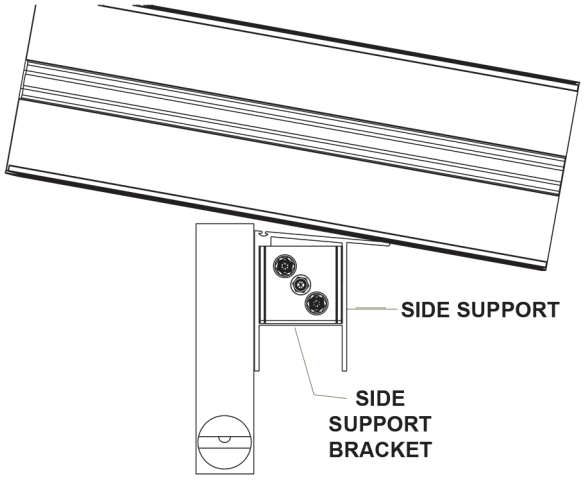
C. To check for square, just measure the <u>diagonal</u> distance between front and back corner marks. If these distances are equal or within 1-inch tolerance, the posts will be square enough with the home to continue. If the difference is greater than 1 inch, you will need to adjust the location of the Front Posts.

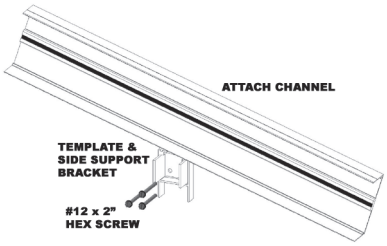


Helpful Hint: For example, if one diagonal was 2" longer than the other, you would move the mark on **<u>longer</u>** diagonal **<u>1"</u> toward** the center post. The other mark on the shorter diagonal would be moved **<u>1"</u> away** from the center post.

4. Using four (4) #12 x 3/4" screws attach the Side Support Post Insert into the Side Support while it is on the floor. Determine Post length and then pull Side Support Post section to that length. Clamp Inserts after wrapping with a piece of cardboard to protect the painted surface.
Clamp!!! do not install screws at this time.

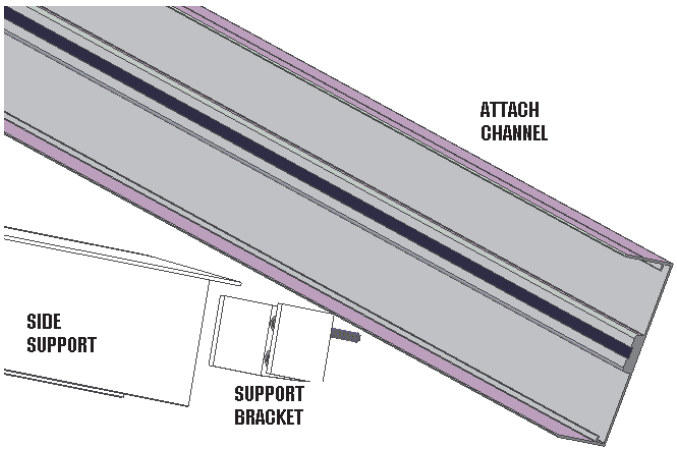
5. Use the supplied template and (3) #12 x 2" hex screws and (3) nylon spacer washers to install the Support Bracket on wall of home and butted up against bottom of the Attach Channel. If the Attach Channel is on Fascia and Side Supports go under Fascia to the home, make sure that the Bracket is located so that the Side Support will still butt against bottom of the Attach Channel.





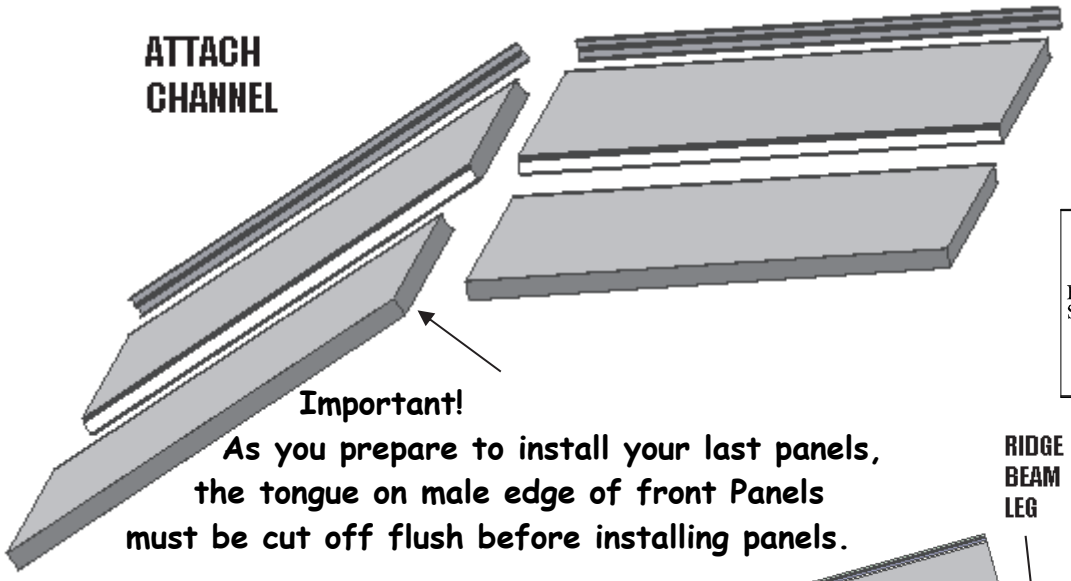
Make sure Side Support legs are plumb.
See Drawing. Remove Template.
Note: There may be a gap between Attach Channel and inside of Side Support. See drawing.

6. Raise Side Support and slide onto Support Bracket while other end of Channel is being held in position by Side Support Post.
Level the Side Support and install #12 x 3/4" Screws into Side Support Bracket.
Leave clamp in place on Post Insert. Repeat this process to install second Side Support.

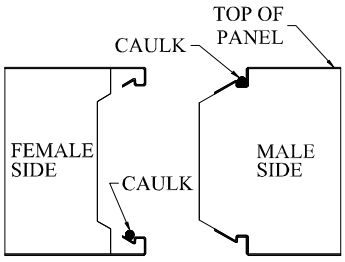


Roof Panels

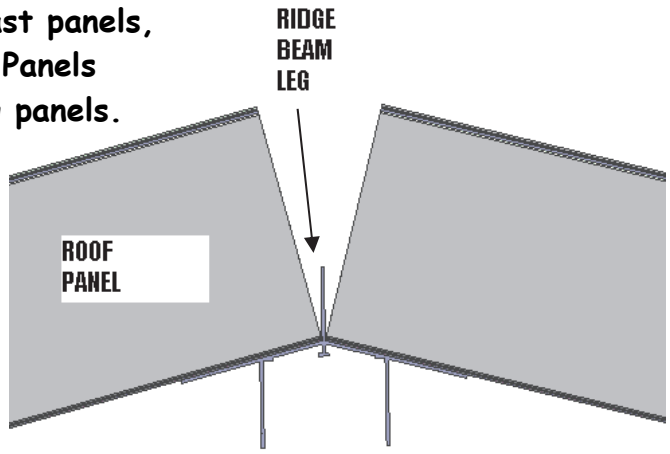
1. If your roof is 6',10' or 14' projection, refer to panel layout on **page 2.** For all other installations you will be using 4-foot wide panels from start to finish. You start out with the female side going into the Attach Channel. **PANELS ARE SHIPPED TO YOU FULL LENGTH YOU MAY HAVE TO CUT THEM!**



Clean Panels
Before Caulking



Important!
As you prepare to install your last panels, the tongue on male edge of front Panels must be cut off flush before installing panels.



2. Slide the first panel into position with female edge going fully into the Attach Channel. The full length of upper edge of the panel must be snug up against the vertical leg of the Ridge Beam.
Do not install panel screws.

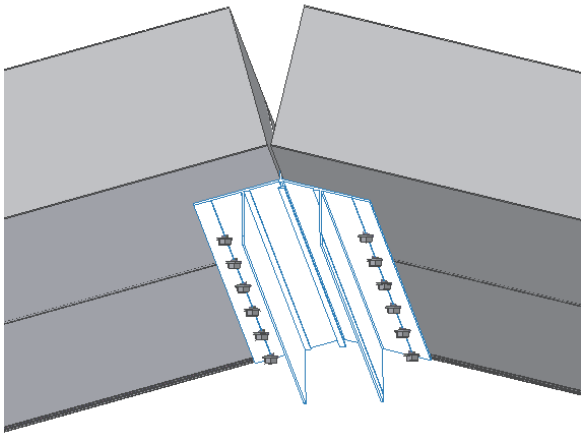
Slide the panel into position on other side of roof; again, with the female edge going fully into the Attach Channel and full length of the panel snug against the Ridge Beam. Make sure the Ridge Beam/Support Beam Assembly has not moved out of position or square.

3. Make any adjustment needed to get the male edges lined up and the upper edge fully against the vertical leg of the Ridge Beam. Note there is approximately 1" of adjustability available in the Attach Channel. Also (only if needed) the Ridge Beam/Support Beam Assembly can be shifted a small distance to the right or left.

Helpful Hint: If more than 1" adjustment is needed, the female edge of the first panel(s) may need to be trimmed. However, doing so may lead to the Side Support(s) being too long and they will need to be trimmed.

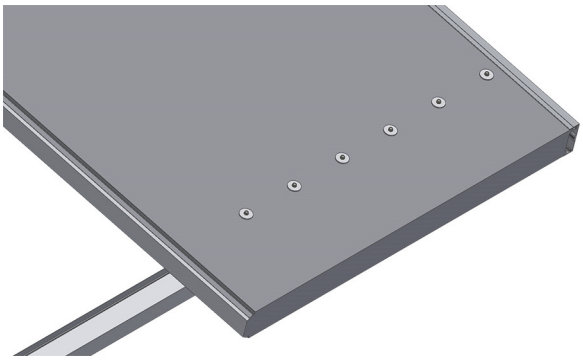
Once you have determined where the panels are located in the Attach Channel mark a line at the edge of the Attach Channel along the length of the panels. Pull the panel out of the Attach Channel and apply a bead of caulk (1/4" to 1" in from the edge) to the underside of the top flange of the Attach Channel. Re-insert the panel into the Attach Channel and line up your mark.

4. Anchor the two roof panels inserted in the Attach Channel by installing #8 x 1/2" screws. These are placed **18"** apart, running them through the bottom horizontal leg of the Attach Channel and into the bottom of the roof panels.



5. Also install #12 x 3/4" screws into the bottom of both panels through each angled leg of Ridge Beam. Space screws 6" apart. Position the screws between the line in the Angle Leg and the edge of the leg. See Drawing.

6. Locate and install any remaining Side Support Posts. Level Side Supports and plumb Posts and install four (4) #12 x 3/4" screws through the Side Support Post into the Side Support Post Insert. **Do not anchor to deck at this time.**

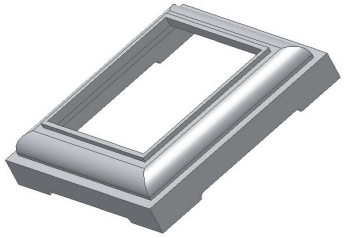


7. Install seven (7) screws with 1-1/2" EPDM Washers (5" for 3" panels), (6" for 4" panels) or (8" for 6" panels) down through Roof Panels into the center of the Side Support.
Do not tighten screws to where panel is dimpled. The first screw should be 2" in from home edge of panel and then 7-3/8" between next six screws with last screw 2" from end of panel. See Drawing.
Helpful Hint: We suggest drilling pilot holes with a long 11/64" drill for the 6" panel.

Helpful Hint: Install next panel before installing the last screw. A bead of caulk is required on the male side of all panels. (See drawing on page 14)

8. After two panels have been installed on both sides and they are all parallel and square, you now can anchor posts to deck.

9. Anchor the Center Support Column to the deck with the hardware provided. Be sure to slip Column top and bottom Bases over the Column before anchoring.



Post Anchoring

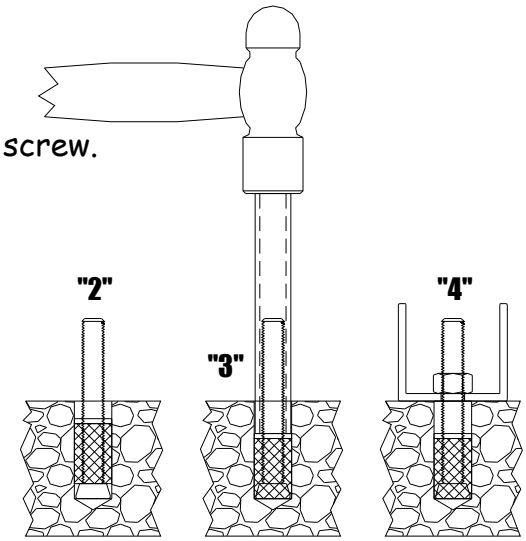
1. Check Posts to make sure they are plumb. Then mark outline of base of each Post on the deck.

2. Slide base of each Post just outside your marks on deck.

3. Install Post Anchors as detailed.

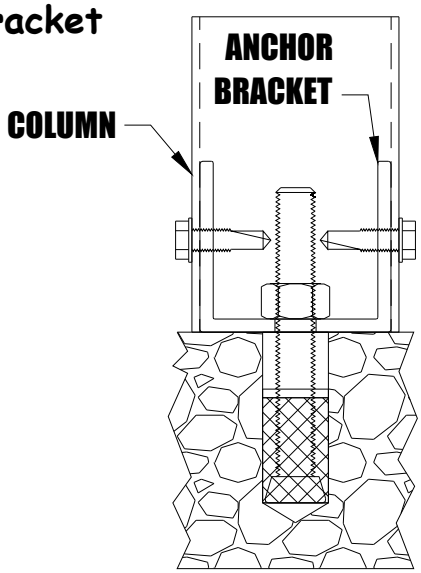
Wood Deck: Attach Anchor Bracket to wood with 1/4"-20 Hex Head Bolt and nut or similar size wood screw.

Concrete Pad: 1. Drill 1-1/2" hole with 1/2" drill.
2. Insert Anchor Bolt, Expanding Ferrule, Lead Anchor and Washer.
3. Use hammer and 3/8" pipe to seat Anchor in bottom of hole.
4. Place Anchor Bracket over Bolt and secure with 3/8" nut.



Install Post on Anchor Bracket

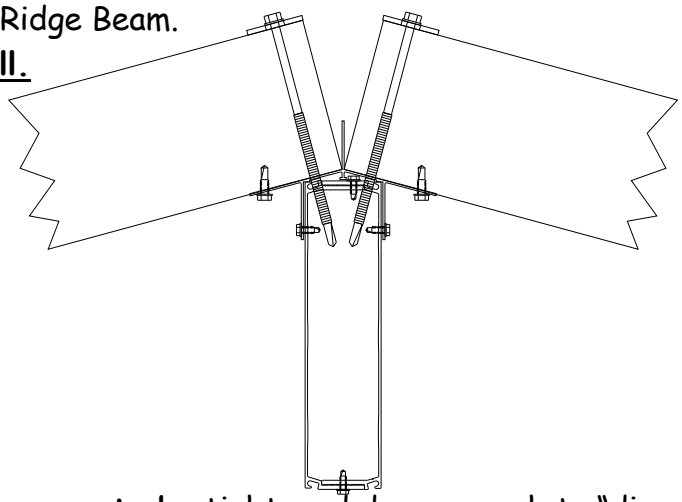
1. Slip Post over Anchor Bracket and secure with four (4) #12 x 3/4" self-drilling screws.



Complete Installation of Roof Panels

9. Continue panel installation process on each row of two panels.

10. After all panels are installed you can now work on top of the roof.
Install seven (7) 5" Screws (for 3" panels), 6" (for 4" panels), or 8" (for 6" panels) with 1-1/2" EPDM washers through each panel into the Ridge Beam.
You must pre-drill with a long 11/64" drill.

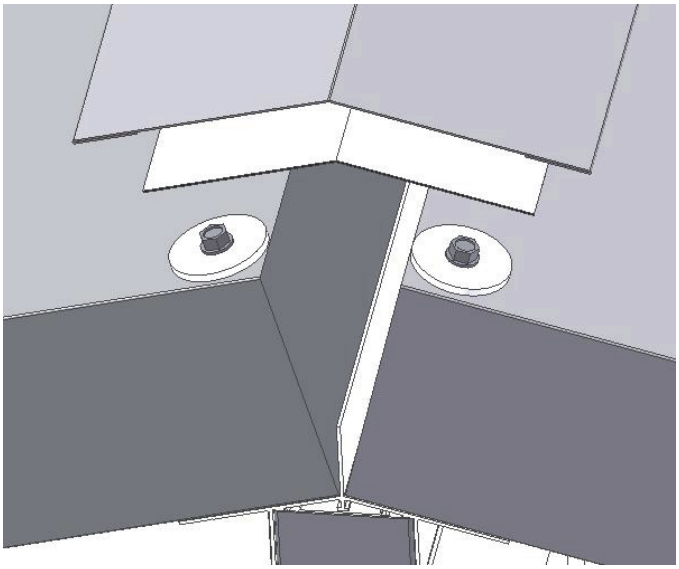


Use the same screw spacing as at the Side Support....2" from end, six screws 7-3/16" apart and then one 2" from other end of panel. However, these screws are placed so that the edge of the washer comes to edge of the panel. Be careful to install the screws at right angles to the roof panels. This assures you will anchor into the Ridge Support Beam. Note: These screws **are to be** tightened down enough to "dimple" roof panel. This is to accommodate the thickness of self-adhesive flashing you will be installing in next step.

Ridge Beam Insulation, "Peel 'n Seal", and Ridge Cap

1. Using the roll of insulation fill in the "groove" where the panels meet at the ridge.

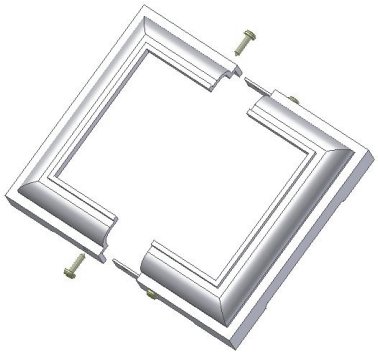
2. Then install the "Peel 'n Seal" self-adhesive flashing tape centered over the open space where the panels meet.
Then install Ridge cap Using #12 X 3/4" self-drilling screw with EPDM washer.



Install Side Support Columns on Side Support Posts

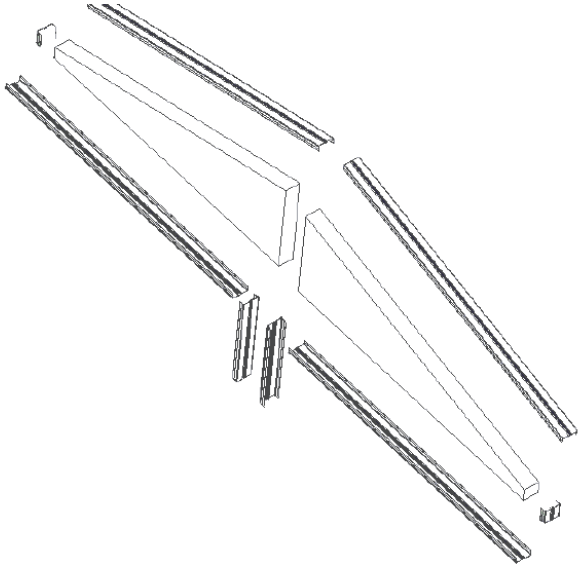
1. Cut Side Support Columns to size and attach to Side Support Posts with four #12 x 3/4" screws. Note: placement on illustration on page 12.

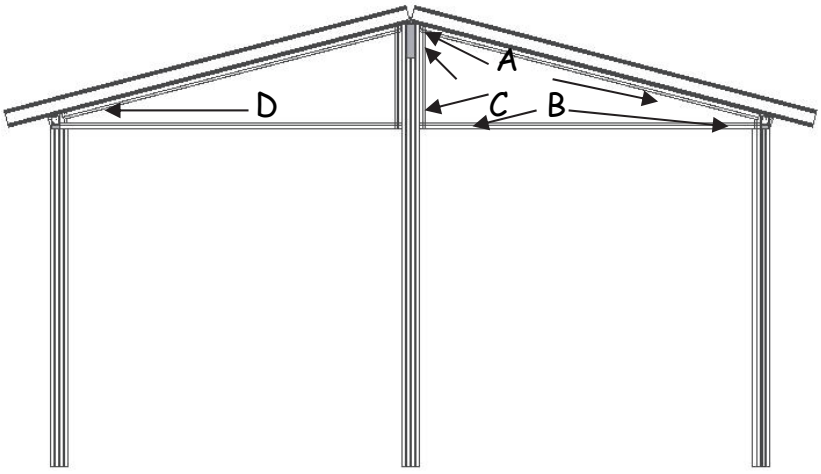
2. Attach Split Trim Bases on top and bottom of all Side Support Columns, except the Front Center Support Column.



Gable Attach Channels

There are four pieces of Gable Attach Channel to be individually measured and cut for each side of the Gable.





1. Measure **each side** of Gable: Then cut Attach Channels to size.

Measurement A: From the top of the Center Support Column to top of the Side Support Column on the underside of the Roof. Cut to size, apply bead of caulk and install Top Gable Attach Channel on underside of roof, centering it between the two Columns . Attach using 8 x 1/2" screws every 12".

Measurement B: The level distance from the top of the Side Support Column to Center Support Column and mark this position on Center Support Column.

Measurement C: Down the Center Support Column from the thermal barrier in the Gable Attach Channel installed on roof (in "Measurement A" procedure) to the mark made in Step "B". Cut to size, and remove a 1/2" of thermal barrier from the bottom end. Also remove about one inch of the 1/8" internal leg of the Channel. You only need to remove that from the side that will face the home. This is so the home side of the Bottom Gable Attach Channel will nest inside this vertical, the other leg will be outside the Bottom Gable Attach Channel. Plumb and install on Center Support Column. Using #8 x 1/2" screws.

Measurement D: Down from eave end of Top Gable Attach Channel to the top of the Corner Column. Cut Channel to size, insert into Roof Channel and attach to the Side Support. Also notch the thermal fill and 'leg' as you did for Channel in "Measurement C" procedure.

Gable Panels

(If the Gable you are installing is 48" wide or less, use the following procedure to cut Gable to size. If Gable is larger, you received a cutting guide included with order.)

1. Measure for each side individually. **Caution**--always measure from the thermal fill of the channel and not the bottom of the channel. Otherwise your gables will be oversized for the opening.

2. To insert the Gable Panels in the Side and Top Channels you will need to Back Out the screws in the Front Side Support Columns and carefully slide the top to the outside until the inner edge is even with the inner edge of the Support Channel. The Column will also be stopped when it hits the Side Support Post. (They are moved back after you have installed the Bottom Channel on the Gable Panels.)

3. Insert Gable Panel into Side and Roof Channels. Use #8 X 1/2" screws every 2 feet through the Channels to lock in position. Inside and outside.

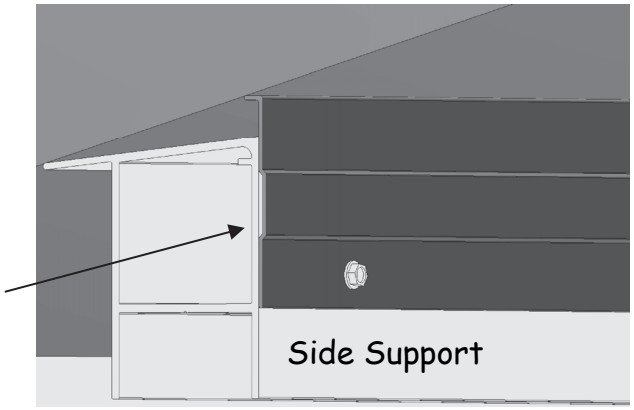
4. Slip Bottom Channel up inside the legs of side channels on the outside of the Gable. Fasten the Bottom Channel with #8 x 1/2" screws--- one screw in all corners---inside and outside.

5. Follow same procedure on other side.

6. Move Front Side Support Columns back into position. Replace screws and install the Trim Collars.

Gable End Channel Clamp

1. Install the Gable End Channel Clamp on the inside of the Side Support Channel where it meets the Roof Panels.
Use #8 x 1/2" screws.



Ridge and Support Beams Extensions

1. Measure from the outside of the Center Support Column to the end of the Roof Panel. Trim the 'left over' pieces of Ridge Beam and Support Beam to size.

2. Attach Ridge Beam to Support Beam with #8 X 1/2" screws. Drill the same holes as described on **page "8" step "7"**. Install this assembly over the bracket of Center Support Column using #12 X 3/4" screws.

3. Slide the Support Beam Cap over the open end of the Support Beam and fasten with #8 x 1/2" screws.

Fasten the Ridge Beam Extension to Roof panel with #12 x 3/4" screws.

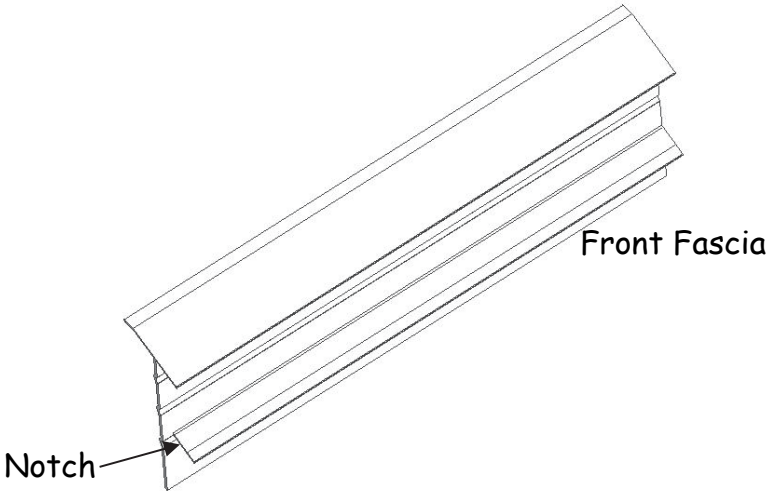
Push Bases of the Center Support Column into position now!

Fascia and Side Trims

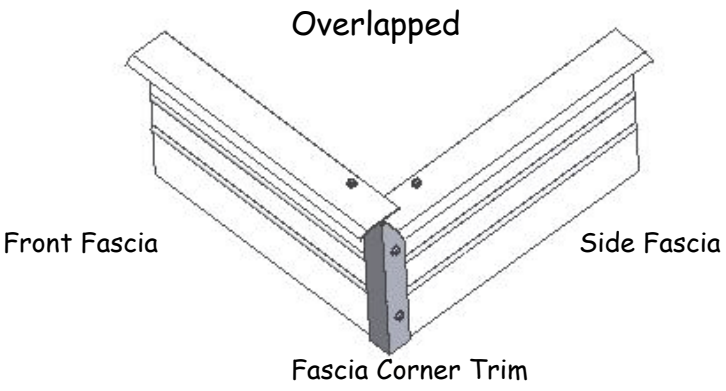
1. Measure the length of each side of roof to cut the Fascia to size.

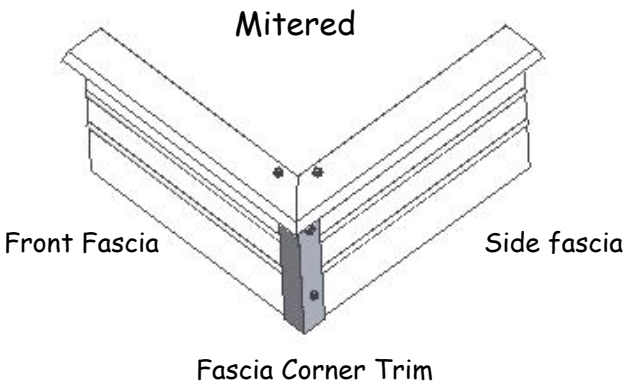
2. Run a generous bead of caulk along the edge of the panels about 1/2" up prior to slipping fascia on. Install side fascia by slipping the top and bottom legs of the fascia over the edge of the roof panels. Install 8 x 1/2" screws every 18" in top and bottom to attach fascia to roof panel.

3. Put one side of Front Trim in position with the lower end flush with Side Trim. Then mark the angle at the "V" joint of the roof. Cut to length at the angle mark. Then cut off about a 1/4" of middle inside leg of Front Trim to clear Ridge Beam. **See Drawing.** Install Trim as you did with Side Fascia. Repeat process for other side of Roof.



Fascia Corner Configurations





Gutter and Downspouts

Gutter Preparation

Gutter is shipped, cut slightly longer than required, cut to proper length at the work sight.

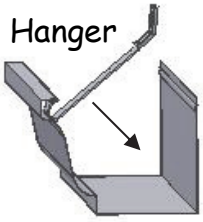
1) Decide where Downspouts will be located. This will determine where the Outlets will be installed in the gutter.

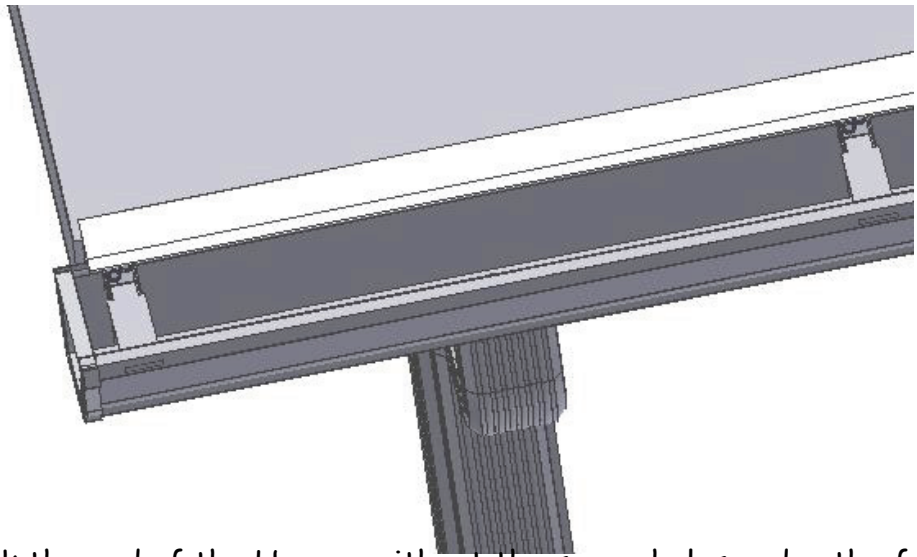
2) Mark the gutter where the outlets are to be installed. Note that the round Outlets will allow the elbows to be rotated to the required position.

3) To install the outlet, cut a 2-3/8" round hole centered in the bottom of the gutter. Then simply push the Outlet down through the gutter until it snaps into position. No caulk, screws or rivets are required to install Outlet in the gutter.

4) Wedges are provided to level gutter. Position wedges and hang on back wall of Gutter where you will be installing the hanger brackets. Then install hanger brackets over the Wedge hangers. Note that the Wedges have lines on each side as cutting guides if you want to reduce the angle of the Wedge.

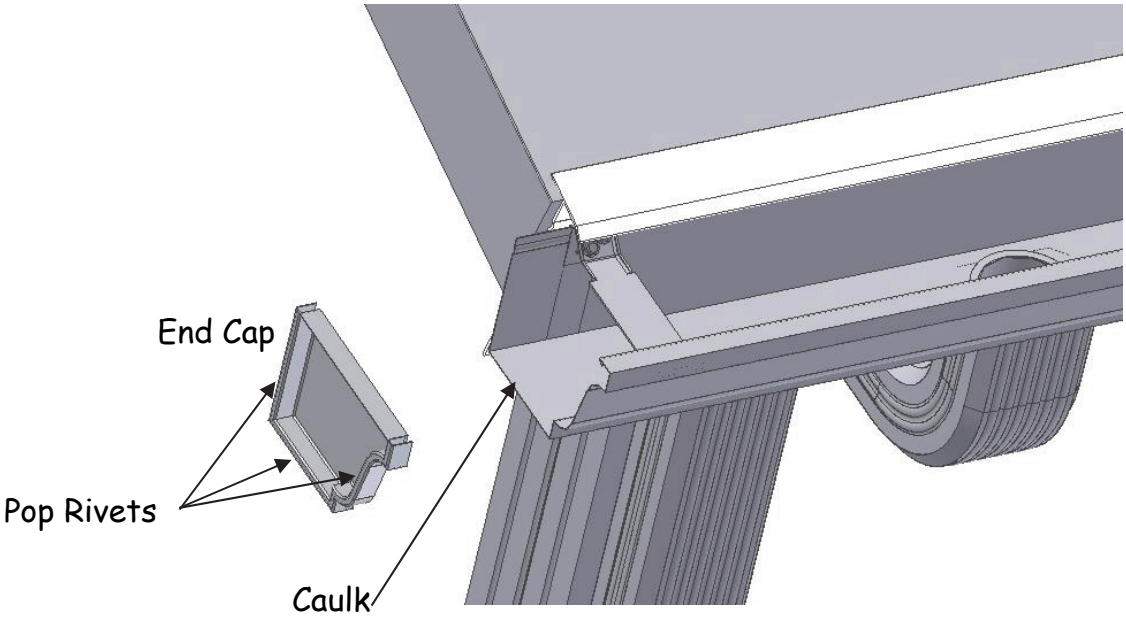
5) Install the hidden hangers in the gutter. Hangers should be no more than 24" apart. Locate your first Hanger so that it will be at the end of the Fascia.





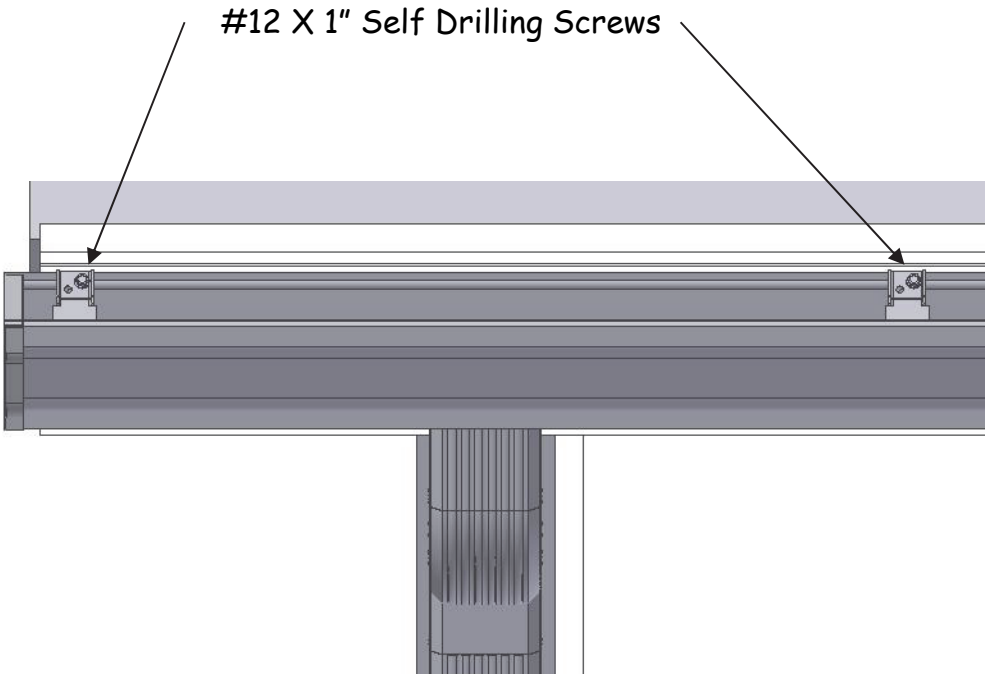
6) To install the Hanger , hook the end of the Hanger without the screw holes under the front lip of the gutter. Then swing the hanger down to the back wall of the gutter until is flush with the top of the gutter.

7) Install the End Caps. Caulk the end of the gutter. Install the End Cap. Pop Rivet where shown.



Hanging the Gutter

1) You must provide support for the Gutter to hold it in position against the Fascia. Starting at the center of the Gutter, Install a #12 X 1" Self Drilling Screw through the hole in the Hanger, through the gutter and wedge, and into the Fascia. Continue until all Hangers have been fastened.



Installing the Downspouts

Downspout Leader

Supplied in 8-foot length only. Cut to desired length using a hacksaw with a fine tooth blade. (24T)

Elbows

When Elbows and Downspout Leader are fitted and in position insert two #8 X 1/2" self drilling screws at each joint.

Downspout Leader Straps

Move Downspout to the side and fasten the Strap to the Side Support Column or home wall. Straps are supplied flat but are easily formed by hand around the Downspout. Move the Downspout back in place and fastened the Strap to the Downspout.