



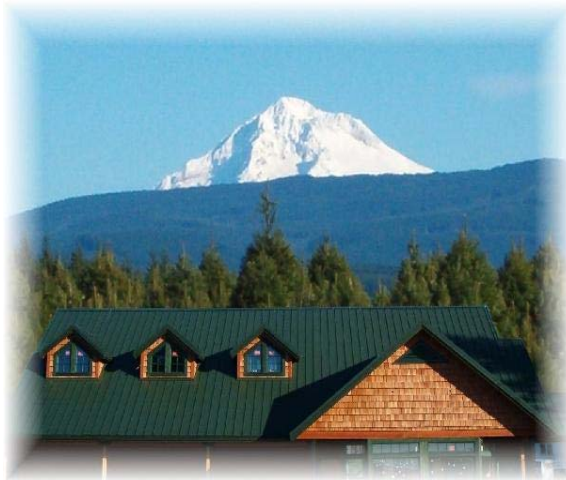
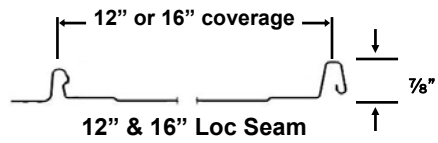
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**Loc Seam**

**Installation and**

**Handling Guide**

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## **DISCLAIMERS**

This guide should be read in its entirety before beginning installation. This guide is supplied by Metallion Industries for use by its customers. These instructions do not replace or supersede local or state building codes, and do not portray all situations. Contact your Metallion Industries representative for further assistance if needed.

Metallion Industries will not assume any responsibility for personal injury, property damage, or other problems which may result from improper installation or other usage of the products.

The specifications and drawings in this manual are subject to change without notice or obligation to make changes in products previously purchased.

## **CARE & MAINTENANCE**

Steel roofing usually requires very little maintenance. If you have a low pitch roof and/or valleys, you may need to remove debris or residue from the roof to prevent the trapping of moisture against the metal. Some flashings may need to be re-sealed periodically in order to maintain optimum weather-tightness.

If you need to wash the roof, you can use a pressure washer and/or use a mixture of one cup detergent (containing less than .5% phosphate) mixed with five gallons of warm water. Another mixture could be one cup of household ammonia mixed with five gallons of warm water.

Wear clean, non-marking, soft soled shoes when walking on the panels to avoid shoe marks or damage to the finish.



## SAFETY NOTES

**Never use unsecured or partially installed panels as a working platform.** Do not walk on panels until they are in place on the roof and the fasteners are installed.

**Metal roofing panels can be very slippery when wet, dusty, frosty, or oily.** Do not attempt to walk on a metal roof under these conditions. Wearing soft soled shoes will improve traction and minimize damage to the painted surface.

**Always take note of your surroundings when on the roof.** Be aware of the locations of roof openings, roof edges, equipment, co-workers, etc.

**Always wear proper clothing and safety attire.** Wear proper clothing, eye protection, and gloves when working with sheet metal in order to minimize the potential for cuts, abrasions and other injuries. Hearing protection should be used when power-cutting metal panels. When working on a roof, fall protection is highly recommended. Follow all OSHA Safety requirements.

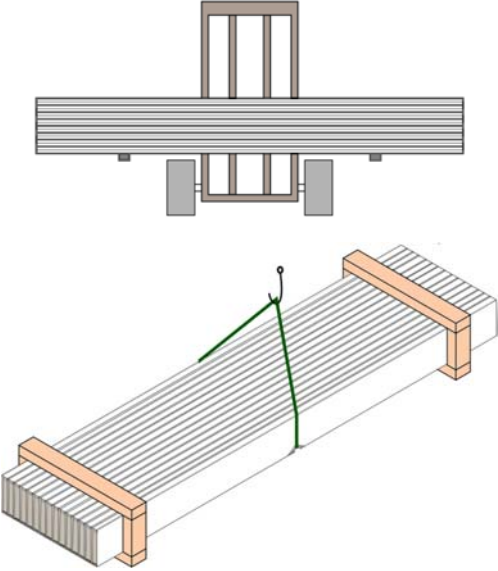
**Installing metal roofing or flashing on windy days can be hazardous to your health and should be avoided if possible.**



## HANDLING PANEL BUNDLES

Handling Loc Seam panels with care is important, from the time it arrives at the jobsite until it is installed on the structure. Depending on how the Loc Seam is packaged, it may be necessary in off-loading to use a spreader bar with a forklift, or a double strap or spreader bar with a crane. Reckless maneuvering or too much handling and moving can cause the panels to rub against each other and mar the painted surface.

Use a spreader bar  
to support long loads



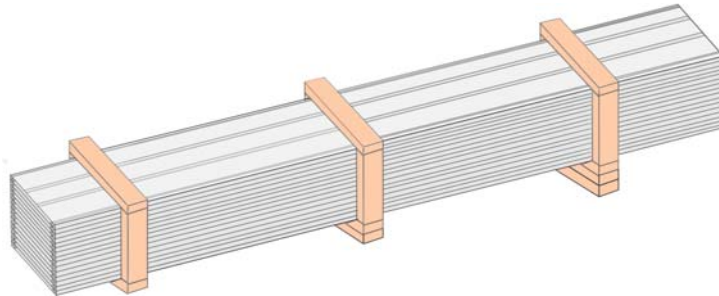
Do NOT lift bundles with a single cable or strap!



## STORAGE

Store the panels and other materials in a dry, well ventilated area, away from traffic. Storing Loc Seam panels in a wet condition can cause the deterioration of the painted surface, so you need to elevate one end of the bundle (see illustration). Any moisture that may have accumulated during shipping can then run off.

If outdoor storage cannot be avoided, protect the metal with a breathable canvas or waterproof paper cover. Leave the bottom of the cover loose to allow air circulation. Do not use plastic which causes sweating or condensation.



## CUTTING

Steel panels and trim should be cut with nibblers, tin snips, a profile shear, or a circular saw with a steel-cutting blade. When using a steel-cutting blade, make sure that all filings are cleaned off of the panel after cutting, as they will rust and pit the surface of the panel.

Some homeowners use a wood saw blade turned around backward in the saw, which is generally not recommended. Do not use an abrasive cutting or grinding wheel—it will burn the paint and galvanizing at the cut edge and will void the warranty.



## UNDERLAYMENT

Loc Seam roofing can span purlins up to 16" on center, but there are drawbacks with a purlin roof system.

1. **MAINTENANCE:** A solid underlayment makes it much easier to walk on your roof without denting the product where you step. When you walk on a Loc Seam roof, there are no exposed fasteners to show where the purlins are. □

2. **OIL CANNING:** In certain conditions, panels may show slight waviness commonly referred to as "oil canning." This can occur as a result of the roll-forming process, or it may be simply telegraphing whatever the underlayment is. Oil-canning does not affect the structural performance of the roof system, and is not cause for rejection of the material. Although "oil canning" with steel cannot be 100% eliminated, a flat underlayment will greatly reduce the possibility. Forming wider 16" panels in a striated profile will stiffen the surface and reduce oil canning.

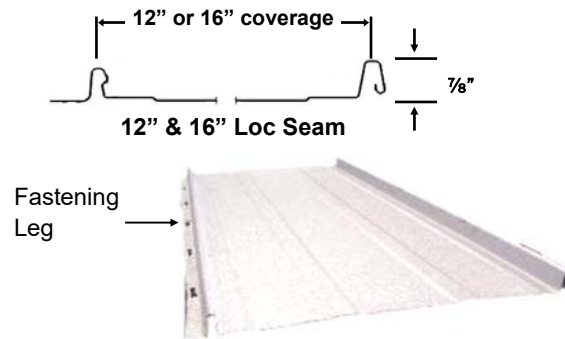
We recommend that Loc Seam be installed on a solid underlayment. We believe that the building owner will be more satisfied with the end result.

Over solid sheathing, apply either 15# or 30# felt paper horizontally starting at the eave line lapping a minimum of 3" as you work towards the ridge line. Ice and water shield (smooth, not granulated) is also an acceptable underlayment.

Note: Heavy snow loads, freezing conditions, or proximity to the ocean may involve specific requirements. See your design architect and your local building department for special requirements.



## LOC SEAM INSTALLATION



Prior to installation of the panels, any flashing going underneath the panel should be installed. Panels should be started opposite from the direction of prevailing winds. To begin, place an alignment line along the gable end where the first roof panel will be installed. This line should be located  $\frac{1}{2}$ " in from the gable edge of the roof deck and square with the eave line. Caution must be taken to insure that the panels are kept in square as they are applied. Regarding overhang at the eave edge: depending on the pitch of the roof, the use or absence of gutters, and other circumstances, we recommend an overhang anywhere from  $\frac{1}{2}$ " to 2". The ridge cap will compensate for slight differences in panel length at the peak.

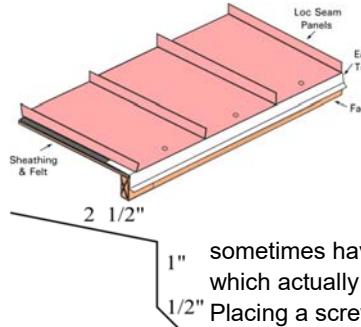
For ease of application, the Loc Seam panel has a fastening leg designed into the panel with a screw slot every  $5 \frac{1}{4}$ ". Use galvanized low profile screws every third slot (approximately  $15 \frac{3}{4}$ ") along the fastening leg. To apply the remaining panels, simply snap the next panel in place and fasten as before.

In certain applications, building code may require lap sealant for a roof slope under 3/12 pitch. See note on page 15.





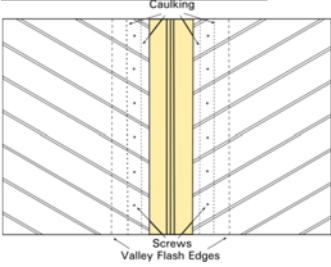
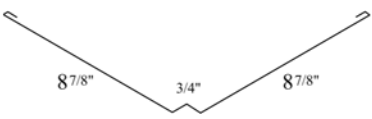
## EAVE TRIM



Install the eave trim using low profile screws or nails before installing the panels. For 2/12 roof pitch or less, apply a bead of Clear seal on top of the trim, below the line of screws.

The Loc Seam panels will sometimes have a slight bow at the eave edge, which actually helps to prevent "oil canning". Placing a screw at the edge of the panel will take out the bow and will help prevent water from siphoning up under the panel.

## W-VALLEY FLASHING



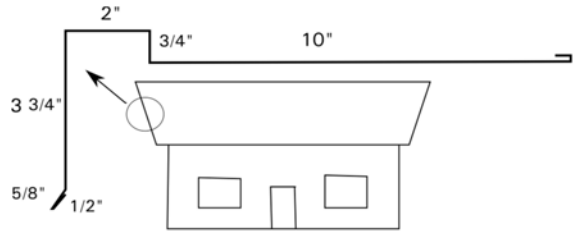
Install W-valley flashing with low profile screws. Cut the panels at the angle of the valley. For 2/12 roof pitch or less, apply a bead of Clear seal on top of the W-valley, below the line of screws.

It is important to leave 3 - 4 inches between the end of the panels and the middle "V" of the W-valley to allow water and debris to drain off properly.

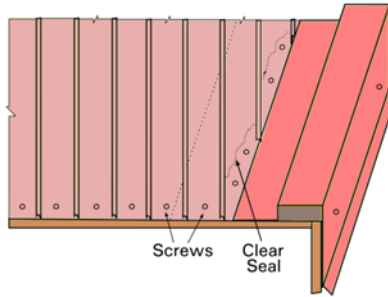
Note: When the roof has a steep pitch (6/12 or greater), the large distance between the ribs can present difficulties. Some installers cut the panels, eliminating the ribs and leaving an extra inch of flat pan. By folding the inch of flat pan under the panel and creating a "back hem", the panel will lay flatter and you will not have a straight line up your w-valley to look at.



## PROW GABLE TRIM



This gable trim is designed for use on a prow-type roof where the ridge is longer than the eave line. It is applied the same way as W-Valley. It is basically half of a valley.

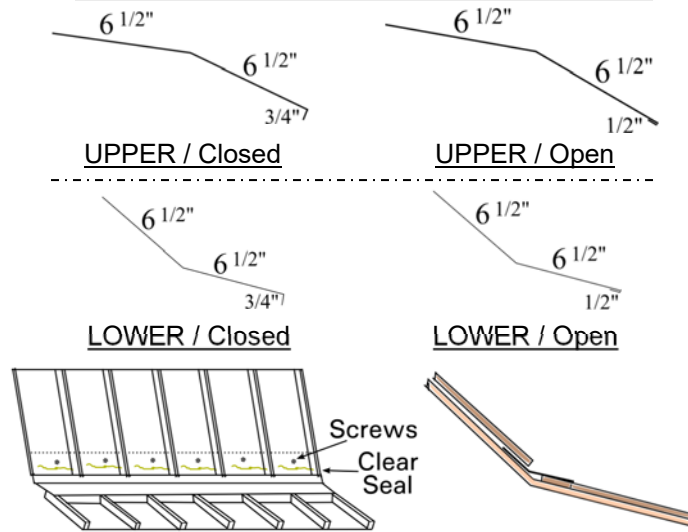


Fasten the Prow Gable at two places: To the fascia board every 24" with exposed painted trim fasteners, and on the roof deck with low profile screws under where the panels will be. Before installing the panels, run a bead of Clear seal or mastic under the panels below the screws as illustrated. It is important to leave 4 - 6 inches between the end of the panels and the raised portion of the flashing to allow water and debris to drain off properly.

Note: When the roof has a steep pitch (6/12 or greater), the large distance between the ribs can present difficulties. Some installers cut the panels, eliminating the ribs and leaving an inch of flat pan extra. By folding the inch of flat pan under the panel and creating a "back hem", the panel will lay flatter.



## TRANSITION PITCH CHANGE



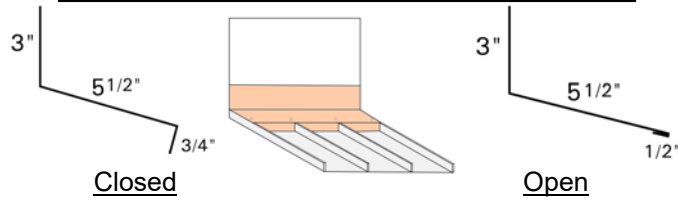
Install panels on the lower pitch first. If the pitch is low (less than 2/12), you may want to bend the pan up to create a dam. The Closed Pitch Change will need to be notched to fit over the ribs. Under the Open Pitch Change, you may also install solid foam closure to stop rain, snow, etc. from blowing up under the flashing. Install the flashing over the lower panels using 3/4" stitch screws at each rib and/or low profile screws on the top leg of the flashing, under where the upper panels will be.

Before installing the upper panels, lay a bead of Clear seal for the upper panels to sit on. Be sure this bead is downhill of the low profile screws. Install the upper panels, covering the low profile screws.

Note: When installing the lower roof's panels, make sure to leave enough room for the flashing and the upper roof panel ribs. We need both pitches to fabricate the flashing. Give the pitch of the upper roof, then the lower roof; e.g. 5/12 - 2/12.

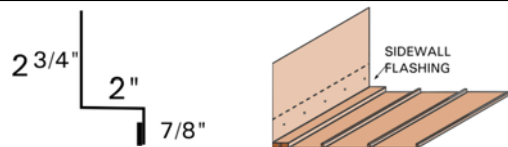


## ENDWALL FLASHING



Install roofing panels. The Closed Endwall will need to be notched at each rib. If your pitch is shallow (less than 2/12), you may want to bend up the flat part of the panel, creating a dam. Under the Open Endwall, you may also install solid foam closure to stop rain, snow, etc. from blowing up under the flashing. Fasten lower edge of flashing to roof panel ribs with 3/4" stitch screws. Use low profile screws through the upper leg of the flashing into the wall. Cover the screws with wall siding if needed.

## SIDEWALL FLASHING



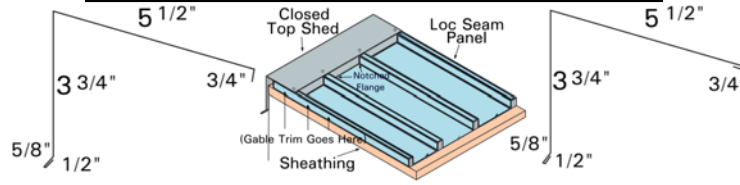
Place the rib of the panel against the wall. If a rib does not match up with the wall, cut the panel 3/4" wider than the area, and bend the 3/4" panel edge up to make a false rib. Refer to the Last Panel Termination page.

Install the flashing to cover the rib. It is best to slide trim underneath the siding on the wall, if possible.

Note: Some installers order sidewall flashing with a wider reach than 2". It helps to compensate for a roof that is out of square or if the rib of the panel is within 3-4" from the wall.



## TOP SHED FLASHING

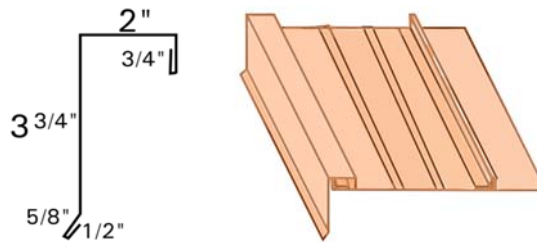


Non-vented / Closed

Vented / Open

The Top Shed flashing is simply a Ridge Cap for a single-sloped roof. Refer to the section on Ridge Cap for venting, non-venting, and closure options. Install the roof panels by lining them up with the eaves. After the Gable trim is installed, fasten the Top Shed flashing at every rib of each panel with 3/4" stitch screws. You may also fasten through the face of the Top Shed flashing into the fascia or the wall siding.

## LOC SEAM GABLE TRIM

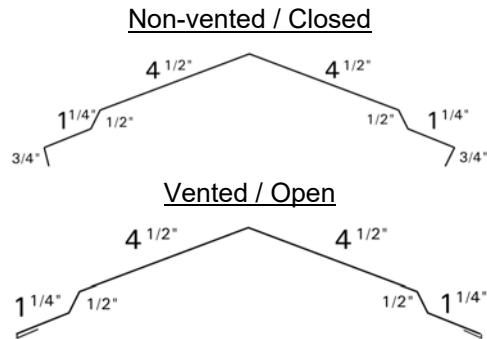


The Gable trim is installed on top of the panel over the rib before the Ridge cap is installed. It is fastened to the fascia board approximately every 24" with 1/4" hex head screws.

If the rib of the last panel does not end flush with the gable edge, you'll need to make an artificial rib by cutting the panel vertically 3/4" past the fascia and bending that 3/4" up to form a rib. Refer to the Last Panel Termination page for detailed instructions.



## RIDGE CAP



There are two typical options for Ridge cap design. Several factors will determine which design to use, such as your location, the speed and direction of the wind, the pitch of your roof, overall

roof design, etc. Contact your sales rep for assistance, and see below for descriptions of these two options.

1. Non-vented Ridge: The two options listed below will effectively block rain and snow.
  - A. Use the Vented Ridge cap with solid foam closure.
  - B. Use the Non-vented Ridge cap. The ridge cap will need to be notched at each rib of the panel.
2. Vented Ridge: The two options listed below utilize the Vented Ridge cap. Either option will allow the building or attic space to breathe.
  - A. Use Uni-Vent (breathable) closure between the Ridge cap and the panel.
  - B. Bending up the end of the flat pan can be used in conjunction with Uni-Vent or by itself. This option by itself may not effectively stop snow at higher elevations.

Install the roof panels by lining them up with the eaves. After the Gable trim is installed, fasten the Ridge cap at every rib of each panel with 3/4" stitch screws.



## VENT PIPE FLASHING

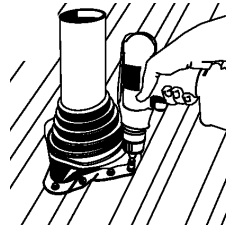
### Aztec Standard Master Flash®

- Made of EPDM or Silicone, these flashings are compounded specifically for maximum resistance to weathering due to ozone and ultraviolet light.
- Fast, one piece construction allows for easy on-site installation in approximately 5 minutes.
- The soft aluminum base is designed to form a seal on most panel configurations and roof pitches regardless of pipe location.

#### Installation:

1. Trim the pipe flashing to an opening 20% smaller than the pipe.
2. Wet the flashing with water and slide it over the pipe.
3. Press Master Flash down, bending it to conform to roof profile or roof irregularities. A blunt tool will help press flashing into tight roof angles.
4. Apply sealant under the flashing and fasten with roofing screws, spaced no more than 1 1/2" apart.

Note: If pipe has a seam, apply sealant where flashing crosses the seam. Apply sealant on upper edge of flashing wherever it is not tight to the roof.



### Retrofit Master Flash®

Retrofit Master Flash is designed to seal existing pipes/vents where a standard pull-over flashing cannot be assembled. The split design allows for an easy wrap around installation. Snap rivets and cable tie are included.



**Note:** If the pipe flashing crosses a panel rib, that underlap rib requires sealant 12-18" above the flashing before installing the next panel to prevent water infiltration.



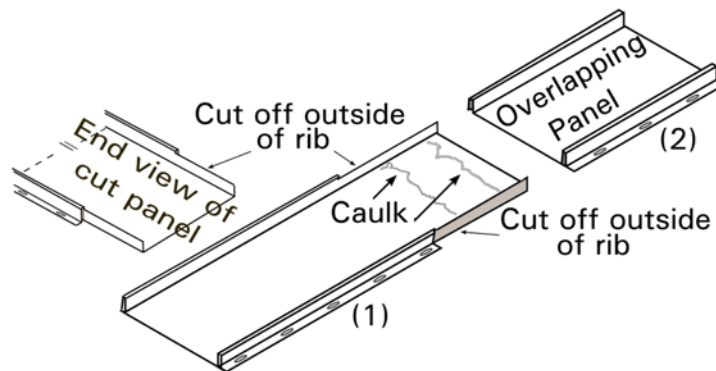
## LOC SEAM END-LAP DETAIL

When you have a situation where the Loc Seam panels need to be end-lapped, we would recommend becoming familiar with this installation procedure BEFORE ordering your material.

To end-lap Loc Seam, the following procedure MUST be followed: The lower panel needs to be cut as shown (1). The ribs are cut off approximately 4" to 6" down the panel or as required by the pitch of the roof. It helps to flatten (crimp) the leftover male rib on the right side to allow enough play for the panels to be end-lapped without buckling your top panel. The flat portion of the panel is left on so that it can be overlapped by the top panel (2).

Install the lower panel as usual and next apply a bead of CLEAR sealant on the flat portion of the lower panel where the upper panel will overlap.

Next, apply the upper panel (2). The upper panel ribs should overlap the crimped ribs of the lower panel (1) and butt up against the non-crimped ribs of the lower panel. Apply CLEAR sealant to the joints.



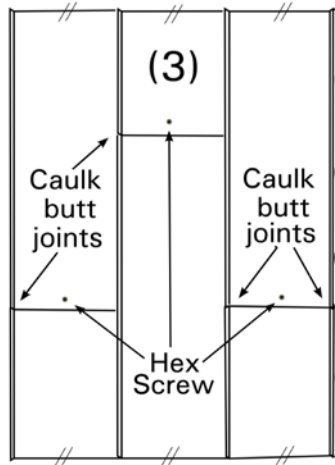
In the next run of panel, the same application procedure is used with one exception: THE JOINTS MUST BE STAGGERED IN ORDER TO ENSURE A WEATHER-TIGHT SEAL (3). To stagger



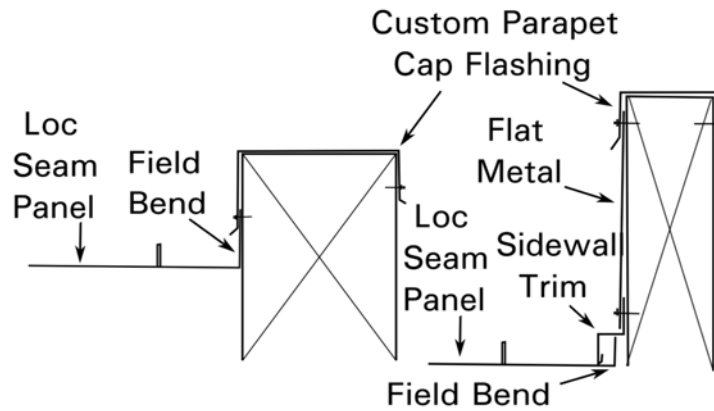


### LOC SEAM END-LAP DETAIL, cont.

the joints in an orderly manner, the panels are normally ordered in two different lengths. If you had a 24'-0" run, you could order one panel length of 14'-6" and the other at 10'-0" (allowing a 6" overlap). By doing this, you would start the first run with the longer panel on the bottom. The next run, the shorter panel would be on the bottom and so on.



### PARAPET APPLICATION



**CRICKET APPLICATION**

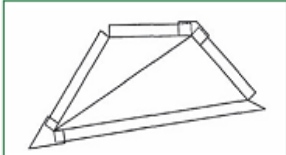
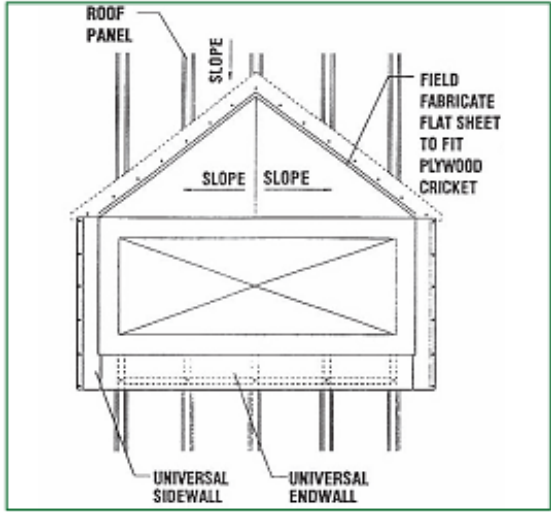


Fig 1

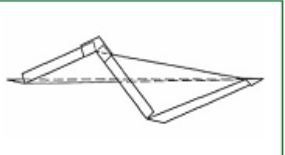


Fig 2

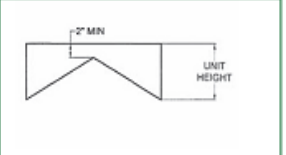


Fig 3

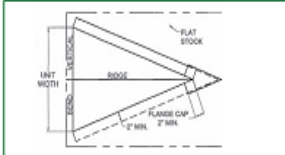


Fig 4

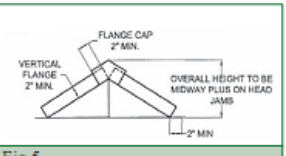
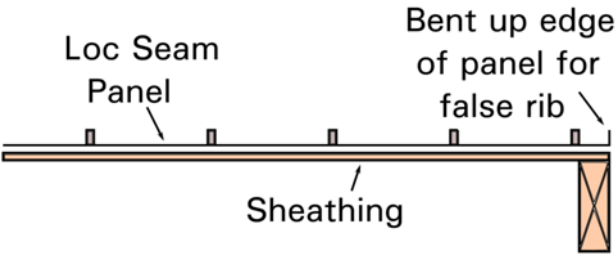


Fig 5



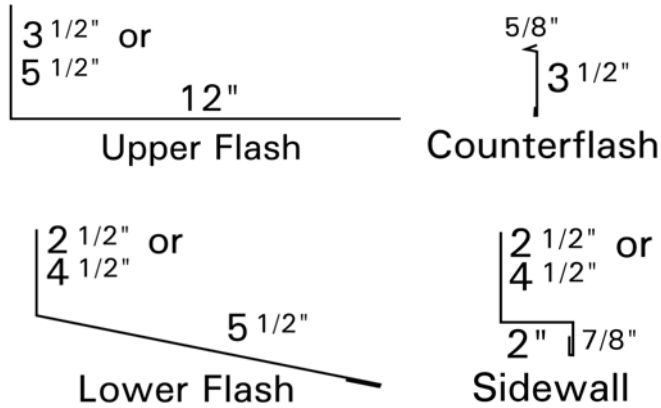
## LAST PANEL TERMINATION

In case the last panel in a run does not end exactly at the edge, follow these steps to ensure a proper installation. Cut the last panel lengthwise  $\frac{3}{4}$ " wider than the edge of the roof. Bend up the cut edge  $\frac{3}{4}$ " - 1" to form an outside rib to prevent water from running onto the fascia. The gable trim will cover the cut edge.





## SKYLIGHT FLASHING

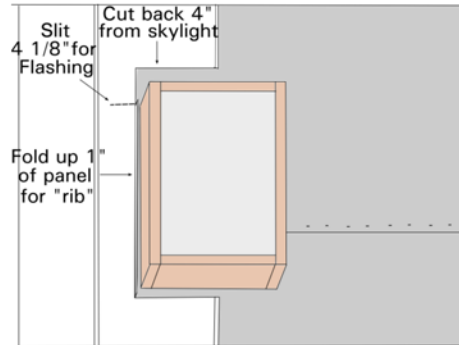


The following steps illustrate one way to flash a skylight or a chimney. Jobsite conditions may require alternate dimensions or installation techniques. Use Clear seal at all joints and where metal is to be overlapped.

Reglet counterflashing is used around a brick or masonry chimney. Using a masonry blade in a circular saw, cut a  $1/2"$  -  $1"$  deep groove around the chimney at the correct height from the roof deck. Blow any dust out of the groove and insert the "V" part of the flashing into the groove along with Clear seal. Fasten the flashing to the chimney with a compatible masonry anchor.

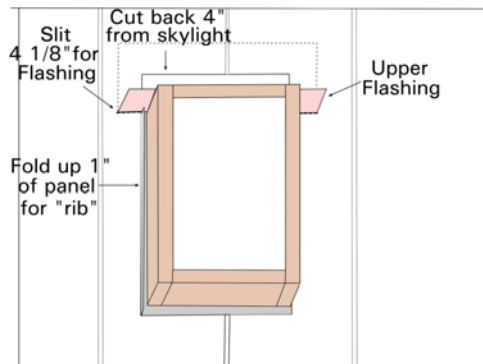


## SKYLIGHT FLASHING, cont.



### STEP #1

Install panels around skylight. Above the skylight, cut the roofing panel back 4" (so ribs do not interfere with drainage.) Where the panel is notched to the side of the skylight, leave 1" of panel to bend up creating a false rib, to be covered by sidewall flashing.

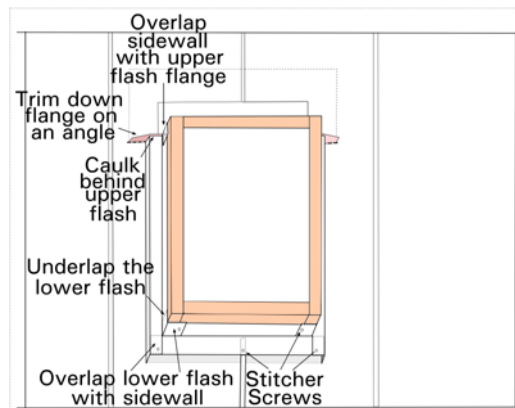


### STEP #2

Install **Upper Flashing** above skylight, leaving a minimum 4" flange on each side wider than the skylight. Install panels above skylight, allowing 4"-6" of space to the skylight. Apply sealant between the upper panels and the upper flashing.



## SKYLIGHT FLASHING, cont.



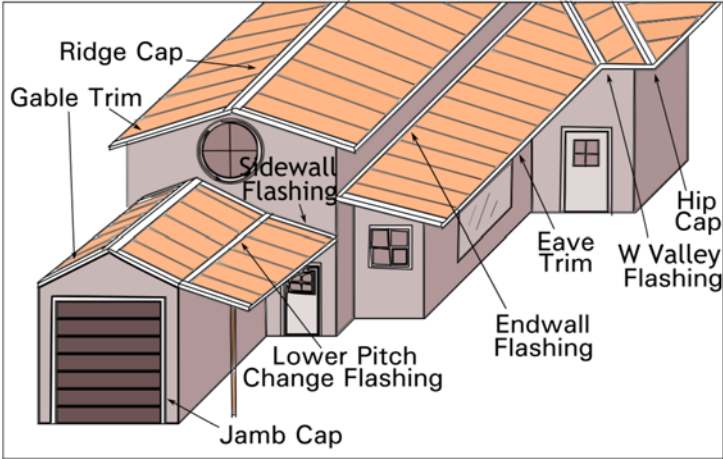
### STEP #3

Install **Lower Flashing** at the downhill side of the skylight. Cut the flashing to the width of the skylight plus 2" on each side. Then cut back along the bend 2" on each side and bend the metal around the curb as detailed above.

Install **Sidewall Flashing** by cutting back the top leg a minimum of 2" and folding around the front of the curb. Do this for both sides of the skylight.



## TRIM APPLICATION





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Hours: Mon.—Fri. 8—5:30

850 NW Park Avenue

Estacada, OR

Fax 503-630-7770

**503-630-7740**

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