

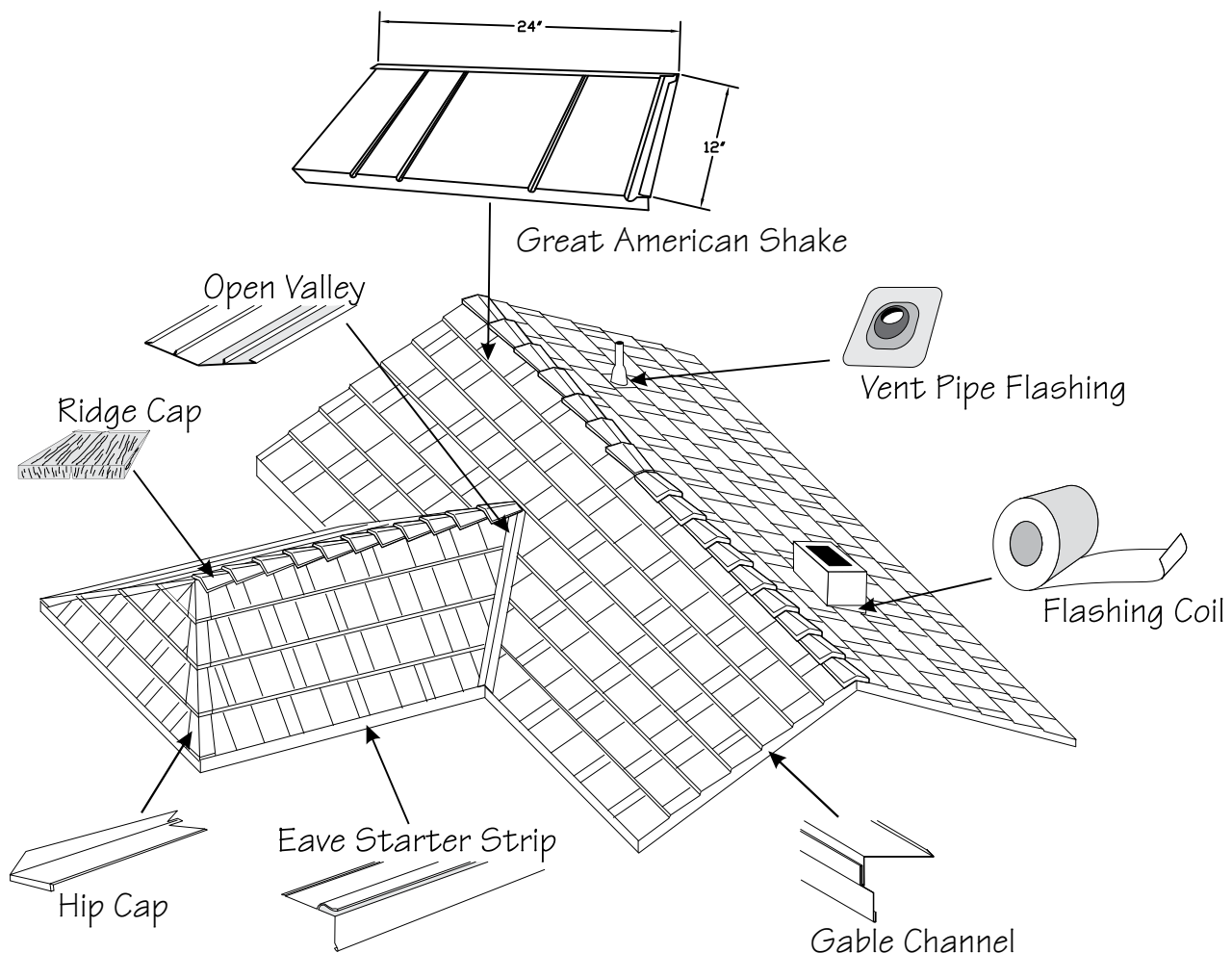
*Detailed  
Installation Methods  
for  
Great American  
Steel Shake*



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Green American Home is proud to make available this in-depth Great American Steel Shake installation manual. This manual is intended for the roofing professional who is experienced with normal safety procedures.

Green American Home assumes no responsibility for the improper installation of Great American Steel Shake nor for any personal or property injury that may occur with the product's use. This manual contains suggested application procedures; conformity to local building codes is the responsibility of the installer.

The application procedures contained in this manual have been time-proven to meet the demands of most installations. However, each job should be considered with forethought on an individual basis. Based upon the geometry of particular installations and to meet geographic and weather-related demands, other installation procedures may be required or more suitable for a particular job. Technical support is always available on a consultative basis to determine the best practices for individual jobs.

Great American Steel Shake is a roofing system engineered for years of service. The distinctive looks, proven long-life durability, energy savings and fire protection combine to make Great American Steel Shake the ultimate product for residential roofing. Proper installation, which can be achieved by following this manual, is key to the long-term success of the Great American Steel Shake system.

This printing supersedes all previous printings and should be studied carefully.

## General Guidelines

Use only accessories supplied by Green American Home. Do not combine dissimilar metal parts with this steel roofing system. Insulate steel flashings from contact with existing metal with a coating of roofing cement or roofing underlayment.

Most lineal flashings have a return flange which is part of a water return channel. Do not flatten this return flange. Fasteners should not penetrate the water return channels except on the uphill end as an anchor point. Anchor fasteners should be covered with a quality sealant. Attach lineal flashings to the roof with nail clips (5401) attached to the return flange every 12" on center.

Uphill flashings should nest inside or overlap downhill by 4" and be sealed with sealant.

Walk on the shingles with care. If shingles must be walked on, distribute weight loads by placing planks under ladders or other scaffolding used on the roof.

Great American Steel Shake can be installed over some existing roofs although it is imperative that applicators contact Green American Home for recommendations before proceeding with such a re-roof.

You will notice that the Detailed Instructions suggest using sealants in certain roof areas in order to guarantee an installation unmatched for long-life durability. Only use manufactured recommended color-matched sealant on Great American Steel Shake installations. Sealant is best used as gasketing media. Sealant is not a substitute for metal flashing.

Touch-up paint is available from Green American Home to match all Great American Steel Shake colors.

Minimum pitch is 3:12.

### General Installation Sequence

1. Prepare deck and apply underlayment
2. Eave Starter Strip
3. Gable Channel
4. Valley Flashing
5. Sidewall Flashing
6. Shingles
7. Chimney Flashing
8. Vent Pipe Flashing
9. Hip
10. Ridge

# Roof Preparation and Underlayment

## Roof Preparation

Great American Steel Shake may be installed over solid sheathing, or old composition shingles which are in good condition. When installing over composition shingles, nail down any loose or curled shingles and protruding nails, cut off overhanging shingles from eaves and gables, and remove any ridge or hip caps. Sweep the roof clean. Great American Steel Shake may not be installed over thick wood shakes, tile, cement shakes, or other metal roofing.

## Underlayment

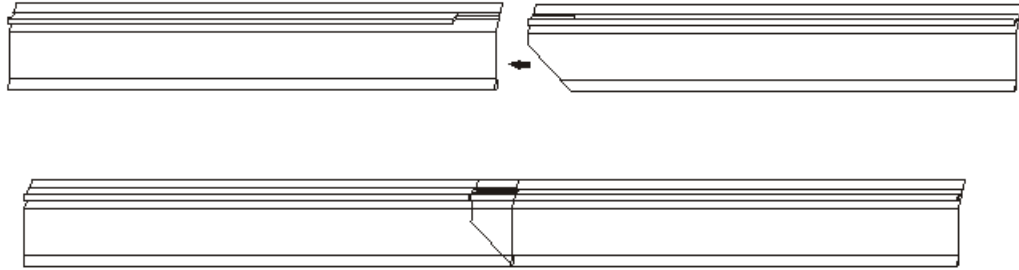
Underlayment should be a minimum of one layer of 30-pound felt or equivalent. Equivalent can be a synthetic product. Cover entire roof with underlayment from eave to ridge. Allow underlayment to overhang eaves by 1½", and extend up all pipes, chimneys and sidewalls by 4". Lap end joints 18", lap successive courses 6". Run additional underlayment lengthwise up all valleys and hips and against all sidewalls. Attach underlayment 12" on centers using Plastic-Top Felt Nails (C501). In areas with heavy ice and snow potential, use ice and water shield or similar underlayment above overhanging eaves and 24" past exterior wall lines. Ice and water shield may also be installed in valleys and along gables. It should be used as required by building code. Whenever possible, ice and water shield should be applied directly to the roof deck.

## Layout

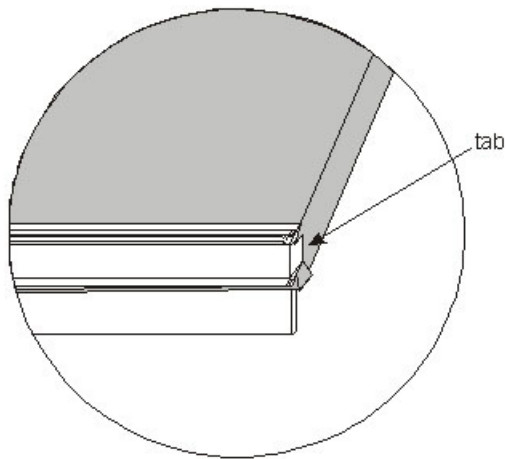
Snap chalklines to layout the roof prior to installing the shingles. This prevents short courses at the tops of dormers, valley intersections and other protrusions. Invest the time to layout the roof before installing the shingles. This prevents the need to remove large sections of shingles after an improper installation.

## Eave Starter Strip

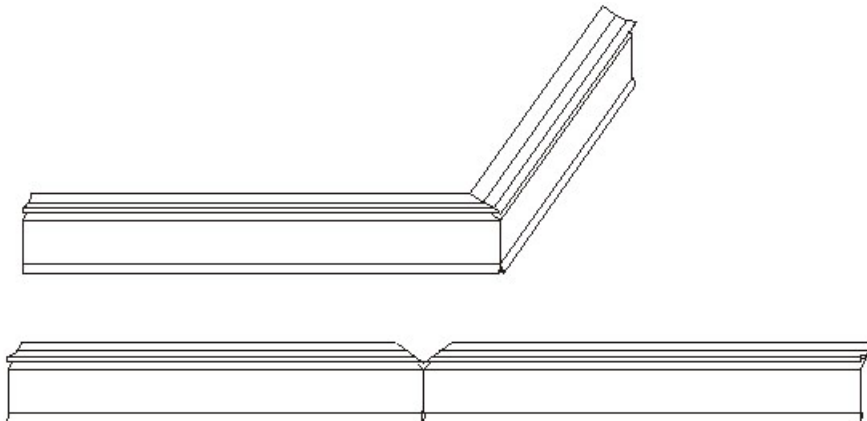
Overlapping pieces of Eave Starter Strip (5402) must be slotted and then nested into one another. Attach to roof deck using shank galvanized steel nails or stainless steel fasteners, 12" on center.



For a neat appearance, form a tab on the Eave Starter Strip at the gable edge and nail securely.

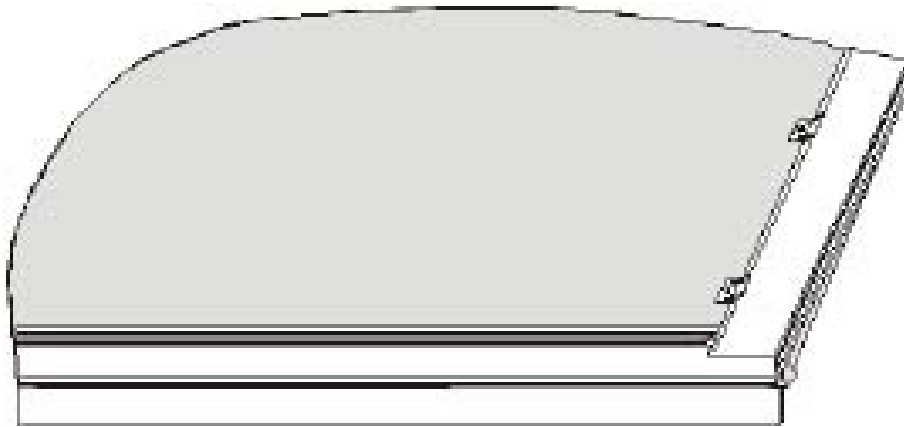


Cut the drip hem and locking area and bend the Eave Starter Strip around corners.

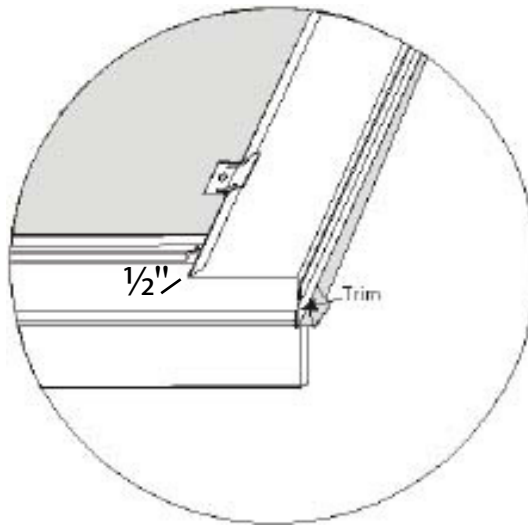


## Gable Channel

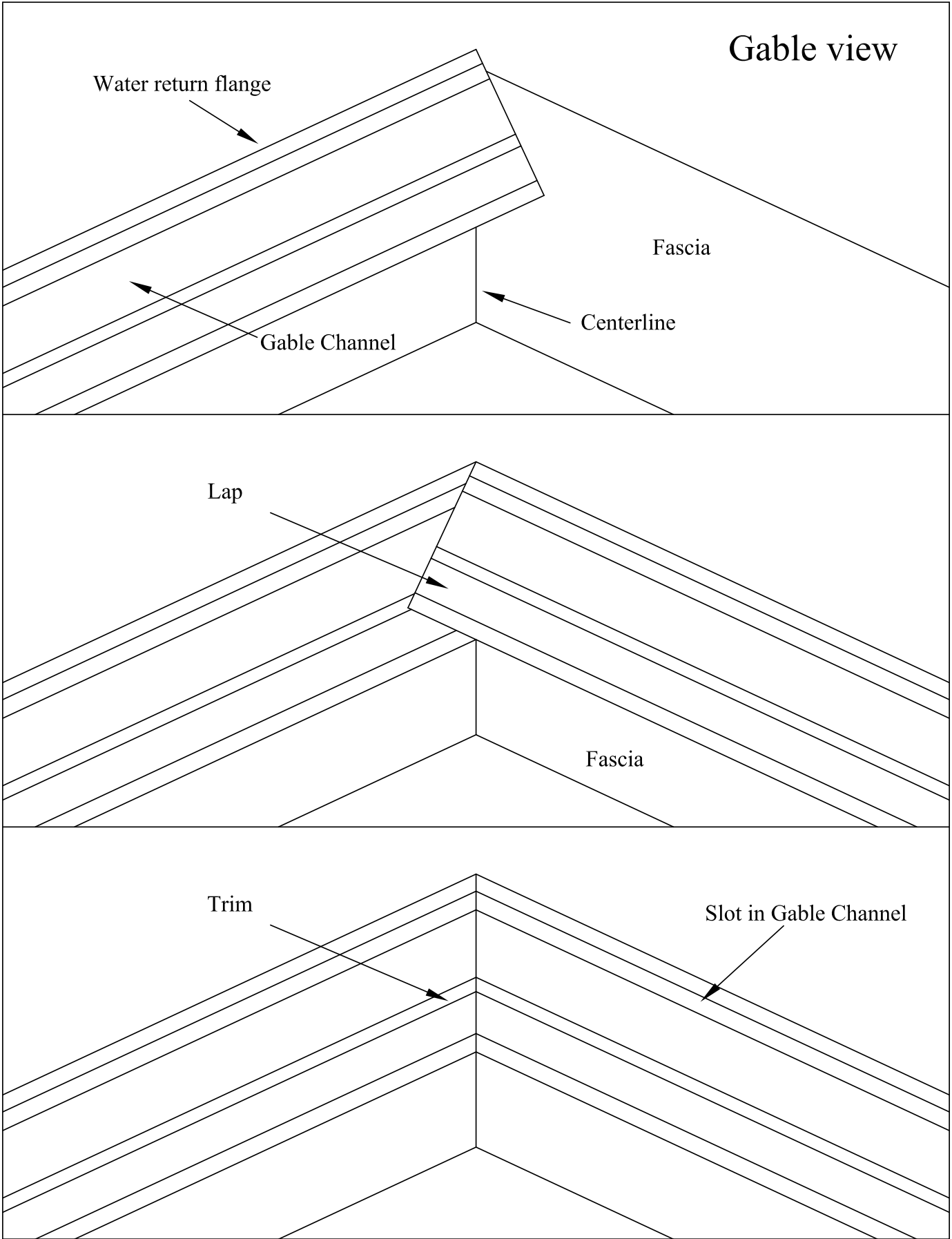
Install Gable Channel (5127) up the length of the gable. Attach with nail clips (5409) every 12" on center. Uphill pieces should always be nested inside and on top of downhill pieces. The overlap should be at least 4".



At the gable/Eave Starter Strip intersection, the Gable Channel should extend  $\frac{1}{2}$ " past the front of the Eave Starter Strip. Remove the lock from the Eave Starter Strip so the Gable Channel can rest flat on the deck. Ensure that this piece will safely drain water beyond the Eave Starter Strip. Trim the lower end of the Gable Channel for a neat appearance.

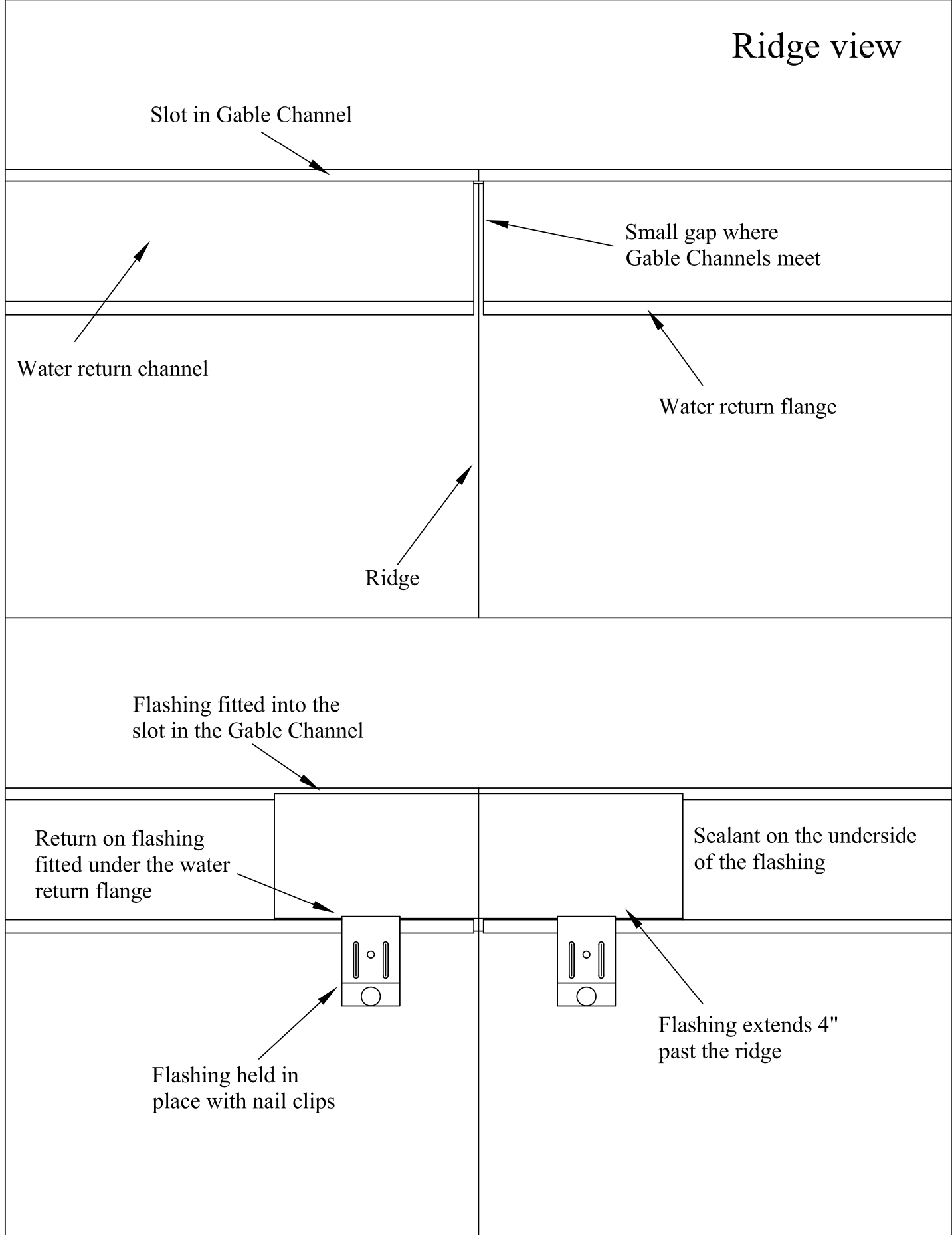


When two Gable Channels meet at the ridge, the bottom corner of either Gable Channel should extend past the ridge. Lap the face of the right Gable Channel over the face of the left Gable Channel. Trim the face of the Gable Channel at the centerline to provide a neat appearance.



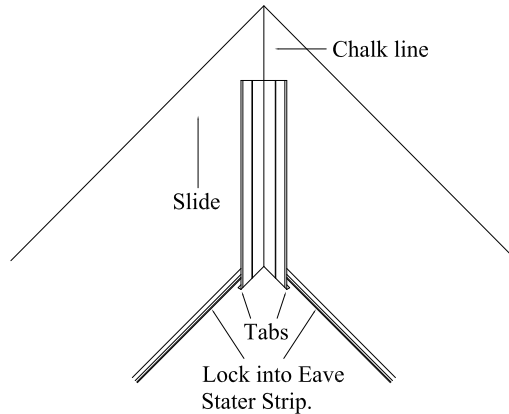


When performing this detail, form a small ridge flashing to cap the gap between the Gable Channels. This flashing must extend 4" down both sides of the ridge. Apply sealant to the bottom side of the flashing, and fasten it in place with nail clips. As an option, the water return channels of the adjoining pieces may be cross-lapped over the ridge.

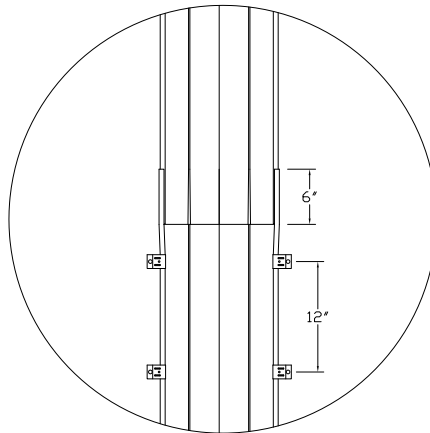


# Valley Flashing

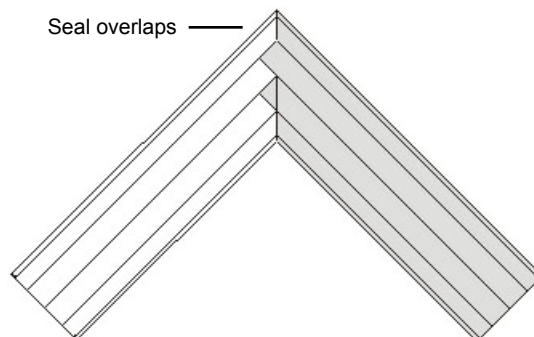
Chalk a line down the center of the valley and center the Valley Flashing (5425) over this line. Form tabs on the bottom of the Valley Flashing and lock the tabs into the lock of the eave starter strip.



Hook nail clips over the valley's return flanges on each side of the valley and attach every 12". All uphill valley flashings should be on top of downhill valley flashings and all laps should be at least 6". Seal laps with sealant.

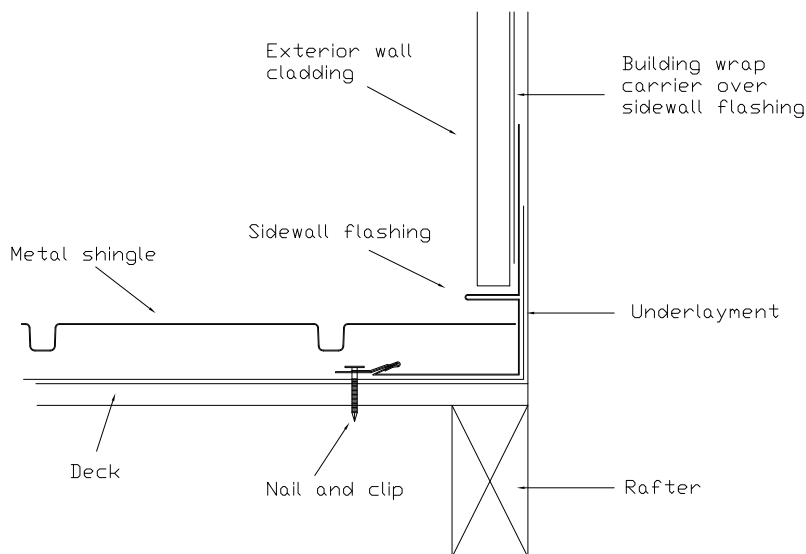


When two valley flashings intersect, trim and form the valley so the overlay is approximately 4". When trimming the valley flashing at a valley intersection, ensure the water return flanges, water return channels, and center drain channel of both valley flashings overlap to prevent water from getting under the valley flashing. Seal the overlap. Do not impede water flow when joining valley flashings. It is helpful to do your cutting, forming, and fitting work before fastening the pieces into place.



## Sidewall Flashing

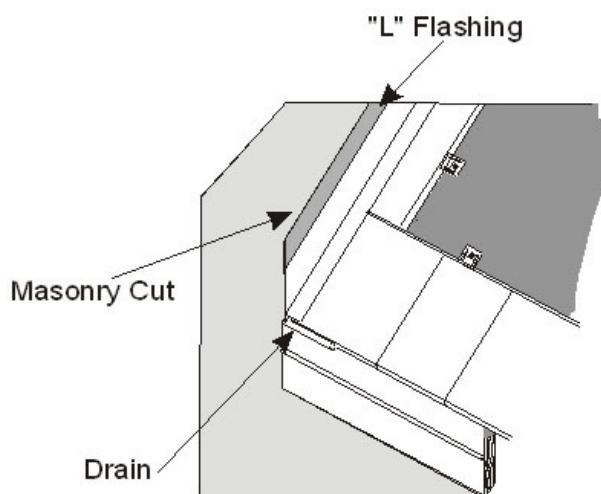
When installing the Sidewall Flashing (5429), the leg extending up the wall should be fastened to the wall in the manner best suited for the particular type of wall (i.e. vinyl, stone, brick, etc.). When Sidewall Flashing comes up against wood or vinyl siding, remove the siding. Ensure the roof underlayment extends up the wall at least 4" and behind the sidewall flashing. The housewrap must extend over the top leg of the Sidewall Flashing. The Sidewall Flashing should fit snugly against the wall. The Sidewall Flashing should extend  $\frac{1}{2}$ " past the Eave Starter Strip. Hook Nail Clips over the return flange every 12" and attach the Sidewall Flashing to the deck. One nail can be used to anchor the part on its uppermost end to prevent slippage. Seal over all anchor nails. Reinstall the siding.



When installing against masonry, cut a  $\frac{1}{2}$ " groove into the masonry at an appropriate height from the deck to bend and insert a  $\frac{1}{2}$ " flange at the top of the sidewall flashing leg. Apply sealant into groove before inserting the flashing. In some instances, the top leg of the Sidewall Flashing will not reach the masonry cut. If that is the case, field-form counter flashing to slide into the masonry cut and cover the top of the Sidewall Flashing. Attach the counter flashing to the Sidewall Flashing with pop rivets of compatible metal and seal the rivet heads. Seal the masonry groove.

If the flashing cannot be installed behind the siding, secure it to the wall with a terminator bar and seal.

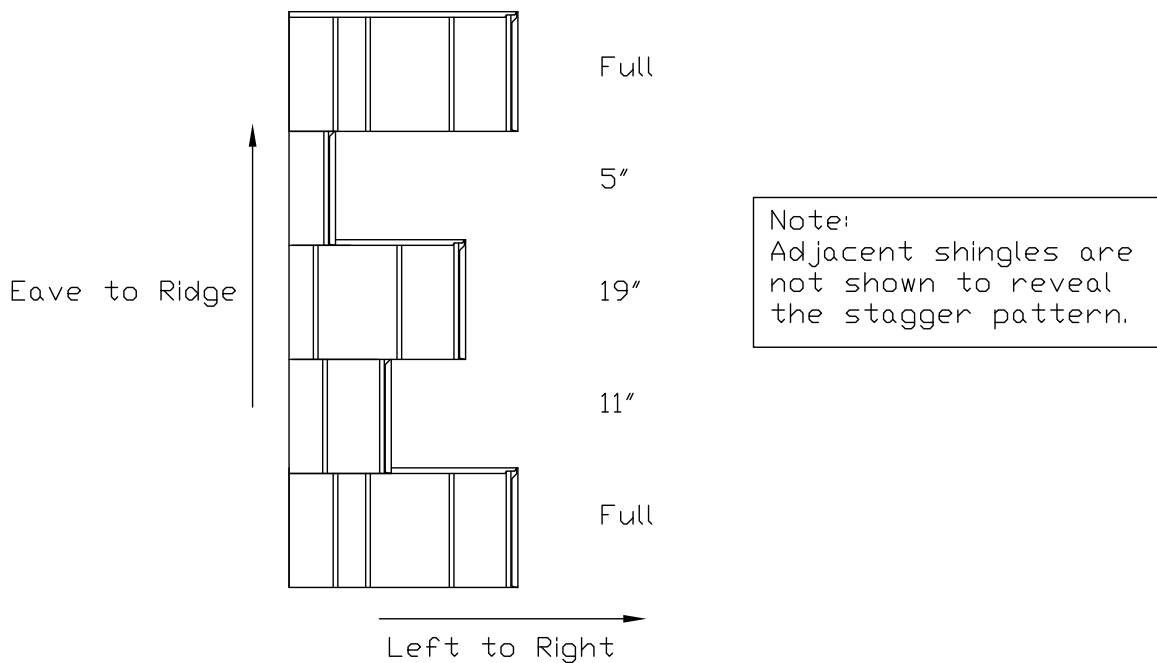
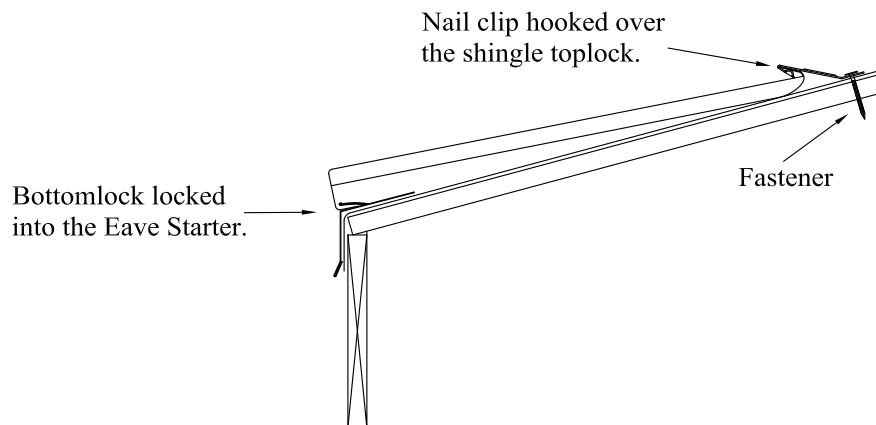
When installing shingles into the Sidewall Flashing cut a  $\frac{1}{4}$ " high drain in the nose of the first shingle where it covers the water return channel of the Sidewall Flashing to allow water to drain out the water return channel. The first shingle is then inserted into the receiving channel of the flashing. Do not drive fasteners through the water return channel. All attachment should be done outside the channel.



# Shingle Installation

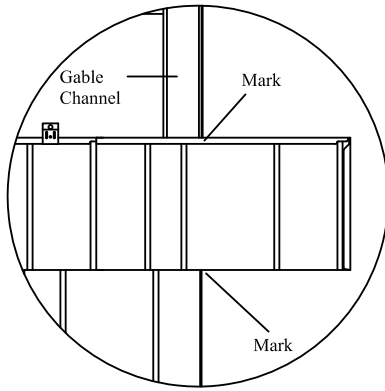
Great American Steel Shake (5401) has a four-way interlock that includes a toplock, a bottomlock, and two sidelocks. Shingles are installed left to right, eave to ridge. Ensure the bottomlock of the first course is locked into the Eave Starter Strip. Ensure all locks on the shingles are fully engaged. Attach each shingle to the roof deck with a minimum of two evenly spaced nail clips.

Cut the first shingle of each course to create a stagger pattern. The stagger pattern is a full shingle, 11" shingle, 19" shingle, 5" shingle and repeat. Remember to maintain this stagger when installing the shingles out of valleys, hips, and sidewalls.



# Shingles into the Gable Channel

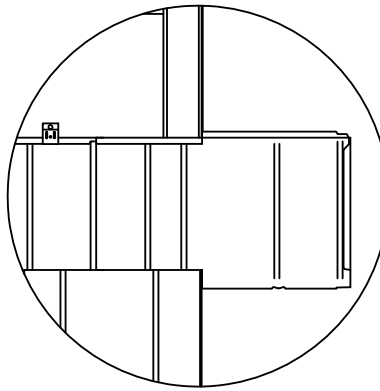
Top view



1. Lock the shingle in place, but do not attach it to the deck.

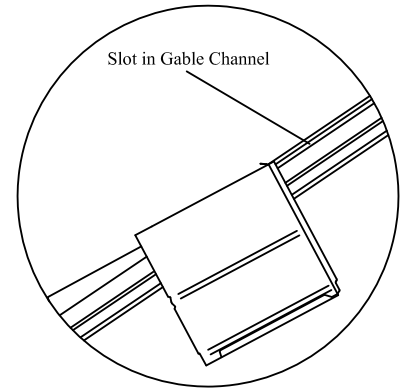
Mark the shingle over the slot in the Gable Channel.

Top view



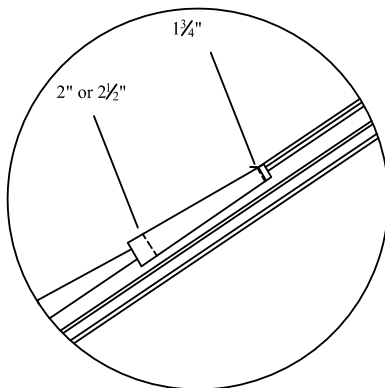
2. Cut the toplock, bottomlock, and nose. Fold open the locks and nose.

Side view



3. Fold the shingle down 90° using a handbrake or other appropriate bending tool.

Side view



4. Trim the shingle to fit into the slot in the Gable Channel.

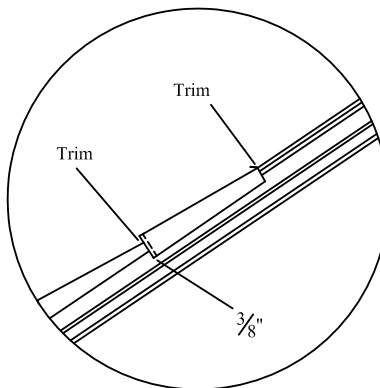
## At the nose:

The side section should measure 2" on the shingle that locks into the Eave Starter. The side section should measure 2½" on all other shingles.

## At the toplock:

The side section should measure 1¾" on all shingles.

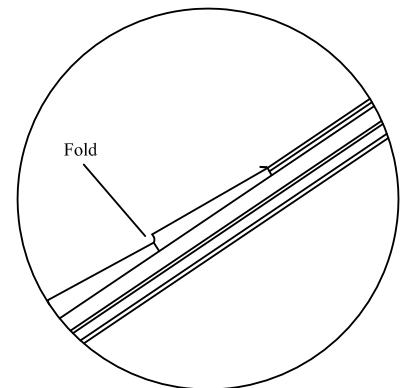
Side view



5. Trim the metal extending past the top lock.

Trim to allow ⅜" of metal to extend past the nose of the shingle.

Side view



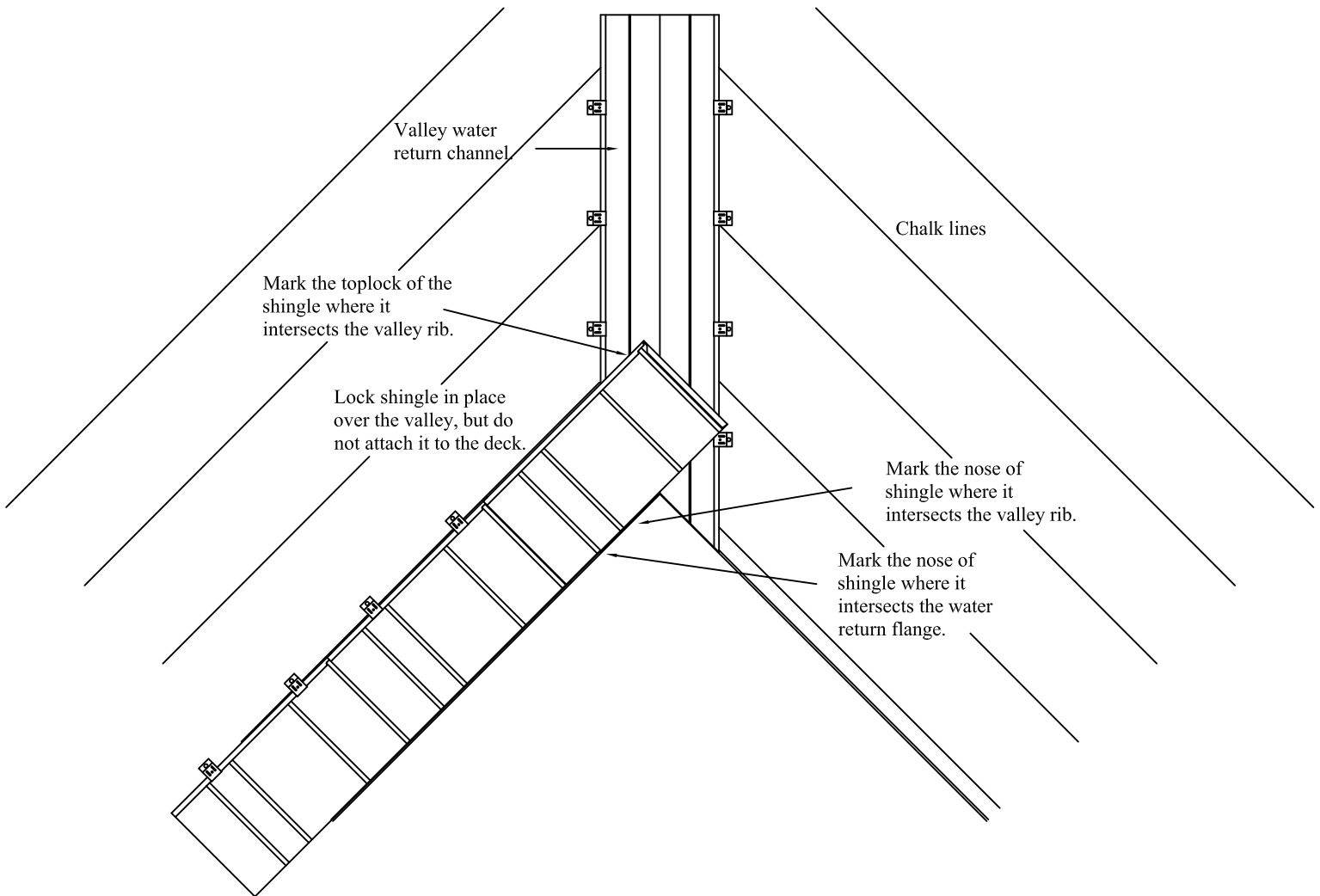
6. Slide the side section into the slot in the Gable Channel.

Fold the lower ⅜" of the side section over the nose of the shingle.

Attach the shingle to the deck.

# Shingles

When installing shingles into the Valley Flashing, snap chalk lines across the roof section to ensure the courses of shingles are straight. The chalklines should extend into the valley and be parallel to the ridge. Perform the following to ensure the sidelock is formed at the correct angle. Place a shingle over the valley and lock it into position. Do not attach it to the roof. The top of the shingle should be even with the chalk line. Mark the toplock and the nose of the shingle where they intersect the valley rib.



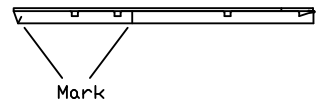
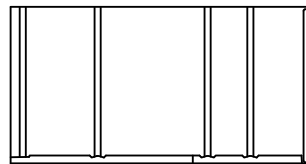
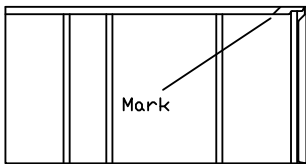
# Shingles

The following is a step-by-step procedure for forming the sidelock of a shingle that installs into a valley flashing.

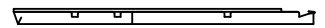
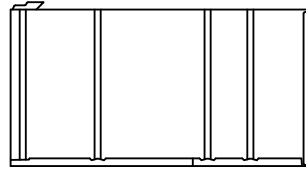
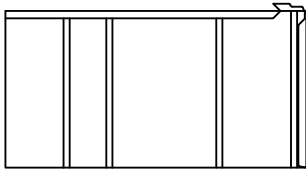
Front

Back

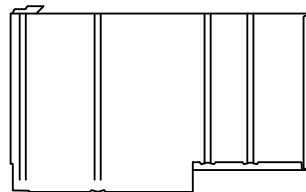
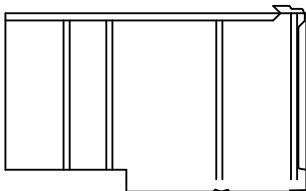
Nose



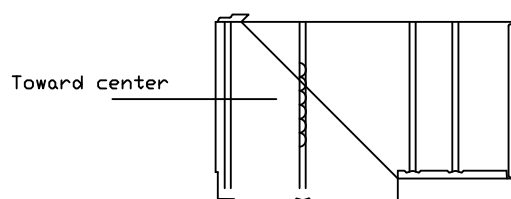
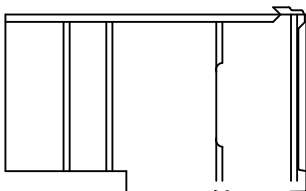
1. Mark the shingle.



2. Cut and open the toplock at the mark on the toplock.

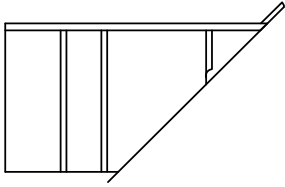


3. Cut and open the bottomlock at the mark on the nose.

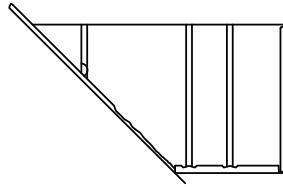


4. Flatten the shingle channels 1" above and 2" below the diagonal line drawn between the cuts. Drive the channels toward the center of the shingle.

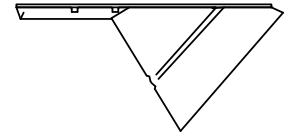
Front



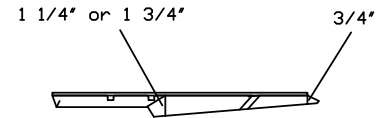
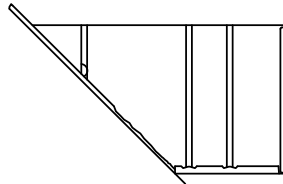
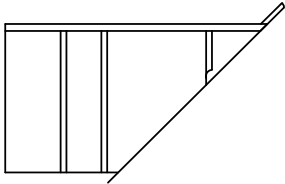
Back



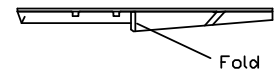
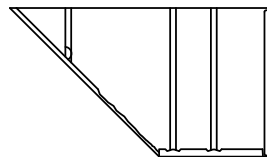
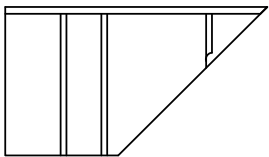
Nose



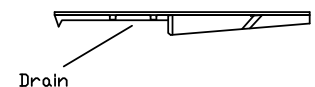
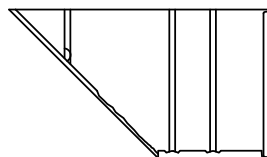
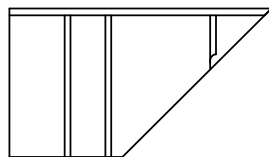
5. Fold the shingle down 90° along the diagonal line.



6. Trim the folded section of the shingle. For the first course, the width of the diagonal leg should 1  $\frac{1}{4}$ " at the nose tapering to  $\frac{3}{4}$ " at the top of the shingle. For all subsequent courses, the width of the diagonal leg is 1  $\frac{3}{4}$ " at the nose tapering to  $\frac{3}{4}$ " at the top of the shingle.



7. Trim away the excess metal at the toplock. Trim the bottom to leave  $\frac{1}{4}$ " of metal to fold around the nose of the shingle.



8. Only on the first course, cut a drain into the nose of the shingle. The drain allows water to exit the valley's water return channels.

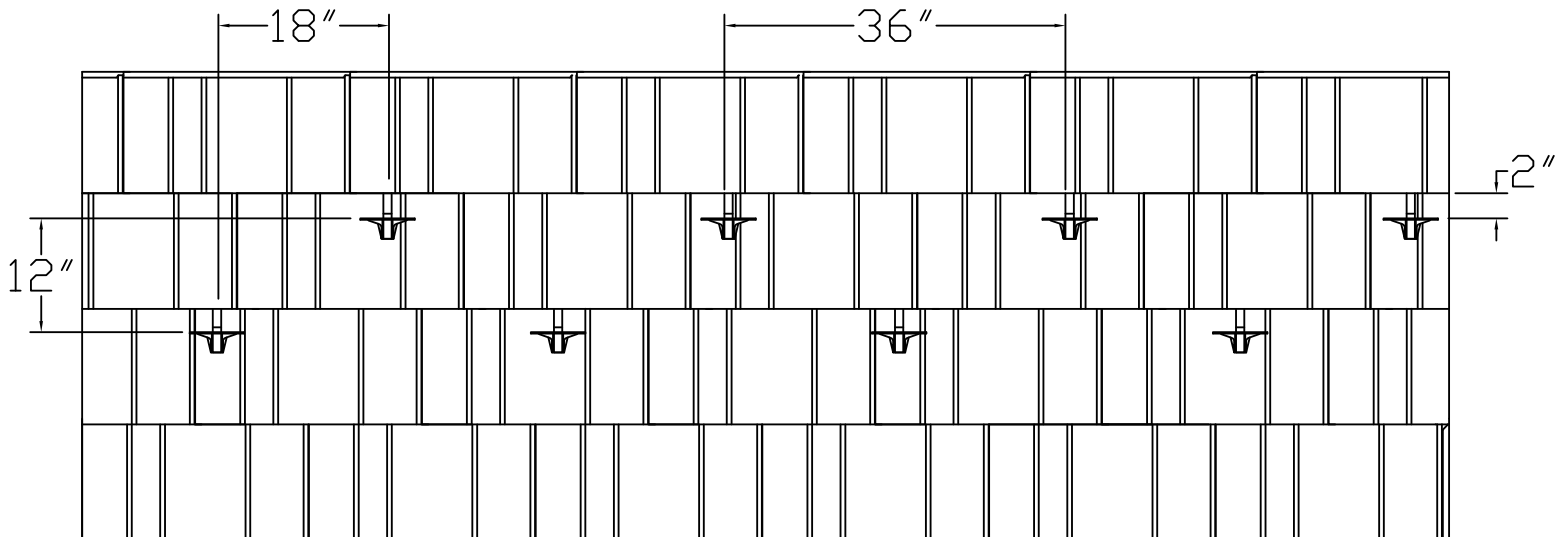
Install the modified shingle by hooking the tapered sidelock over the valley's standing rib while fully engaging the bottom lock and the other sidelock, locking the sidelock into the valley's receiving channel. Remember to stagger succeeding courses of shingles proceeding out of a valley. Using the previously described stagger pattern, hold the tops of the shingles to the chalk lines. Attach the shingle to the roof deck with nail clips. NEVER drive fasteners through the valley flashing.



## Heavy Snow Areas

Generally, radiant heat passes through the snow, strikes the steel shingles and is reflected back outward, melting the snow from underneath. This tends to make the snow slide off in mass, bringing about a need for snowguards.

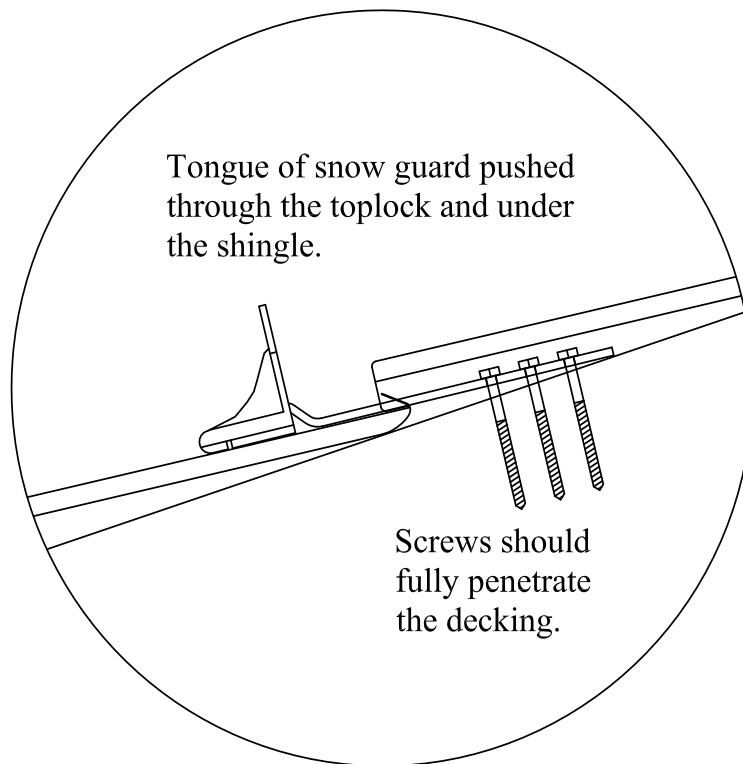
Install snowguards in areas where falling snow is undesirable (over doors, walkways, landscaping, etc.) as well as on all areas where snow would fall onto a lower roof section. Snowguards should be installed in parallel rows 12" apart with the guards on 36" centers in each row. Offset alternate courses of snowguards 18". Do not install snowguards on the first course of shingles. Do not install the snowguard directly against the nose of the shingle. Allow a gap of approximately 2" between the snowguard and the nose of the shingle.



# Snowguards

Painted metal snowguards (C-562) are installed to overlap the top of a course of shingles with the guard's leg extending up and fastened where the next course will be laid. The top lock of the shingle may be notched if necessary to allow the snowguard to be attached.

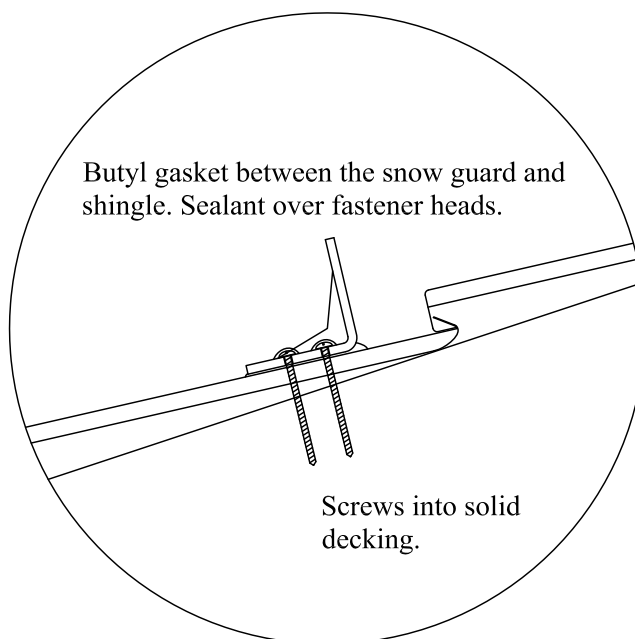
Painted metal snow guard mechanical attachment.



## Snowguards

Polycarbonate Snowguards (C556) can be installed directly on top of the shingles. Apply sealant to bottom of the snowguard. Set the snowguard into position. Avoid placing the snowguard over the deep grooves in the shingle. Drive screws through the snowguard, shingle, and decking. Ensure the screws are long enough to penetrate solid decking. Note: The sealant alone will not hold the snowguard in place. The screws must be used to secure the snowguard in place.

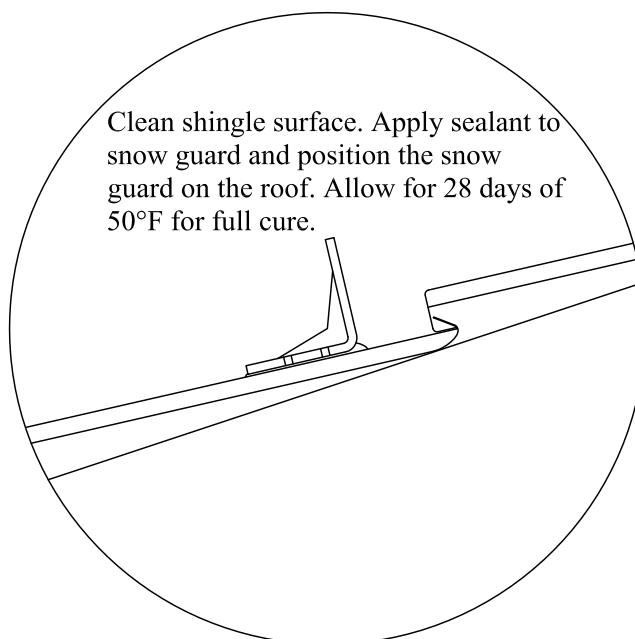
Polycarbonate snow guard mechanical attachment.



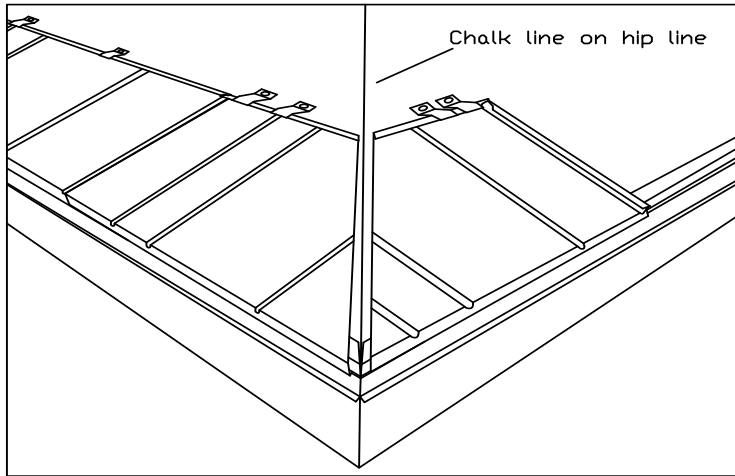
If attachment is to be made without screws, apply Snowguard adhesive (C556) to the bottom of the snowguard, and set the snowguard into position.

Note: Snowguards may tend to slide down steep-slope roofs before the adhesive cures when using this method of attachment.

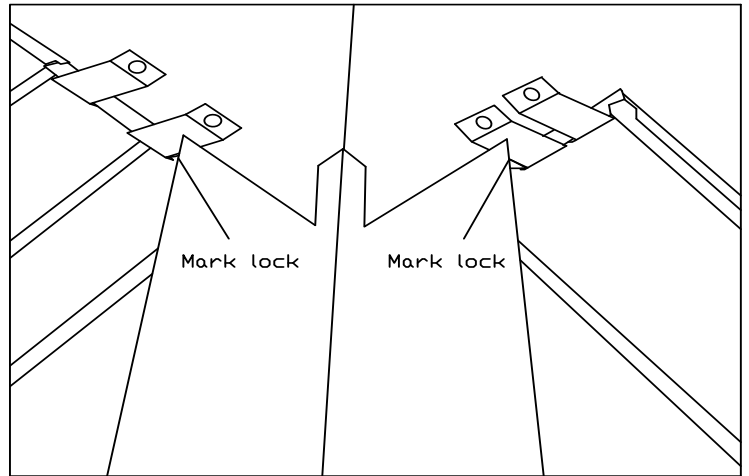
Polycarbonate snow guard adhesive attachment.



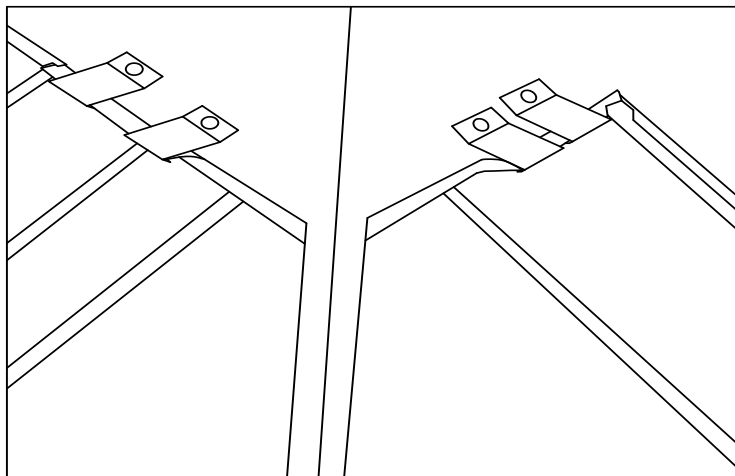
# Hip Treatment



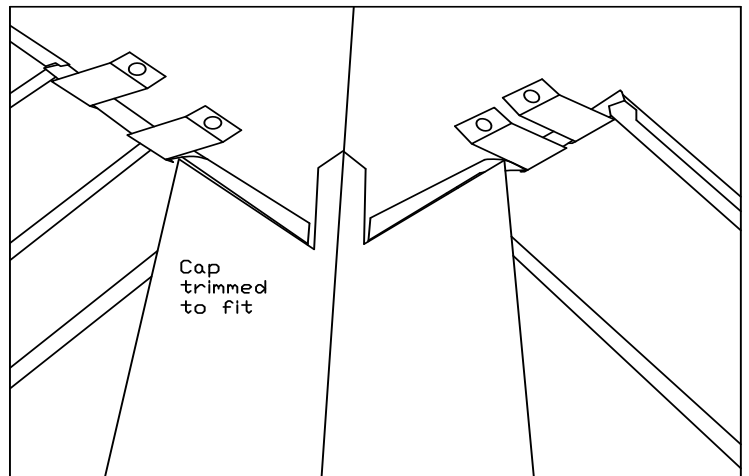
1. Snap a chalk line on the hip line and use this line to align the hip caps. Cut the shingles close to the hip line, yet allow room for the integrated nail tab of the cap to rest on the deck. Remember to maintain the stagger pattern on the shingles going away from the hip.



2. Lock the lower end of the cap over the nose of the shingle. Rest the top of the cap on the toplocks of the shingles. Mark the toplocks along the edges of the hip cap.

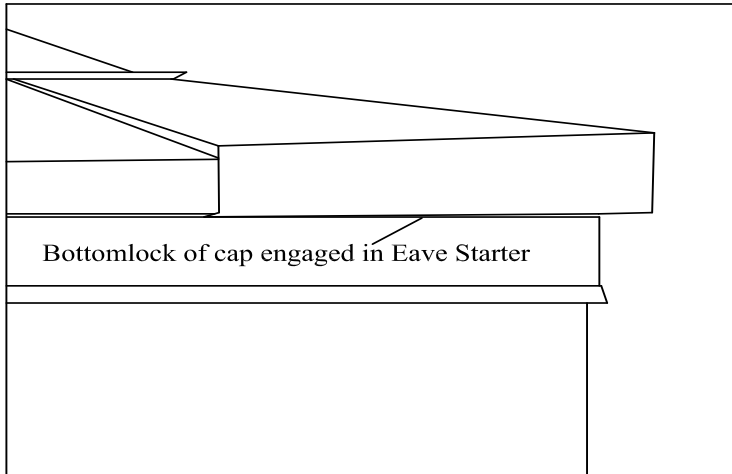


3. Fold open the shingle toplocks at the marks.

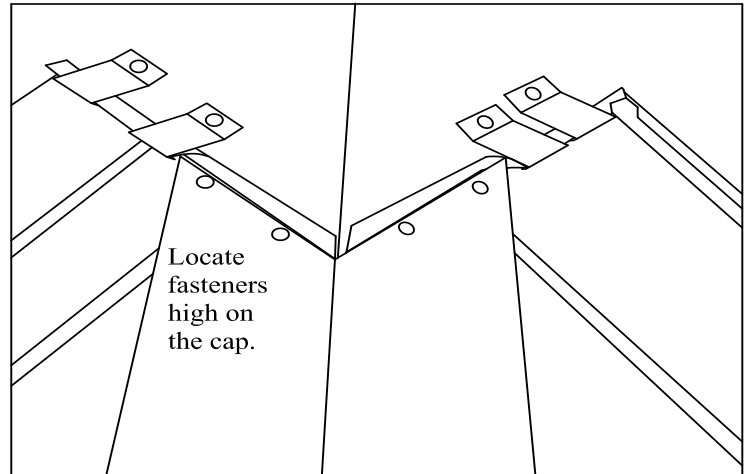


4. Trim the top of the cap to fit into the toplocks of the shingles.

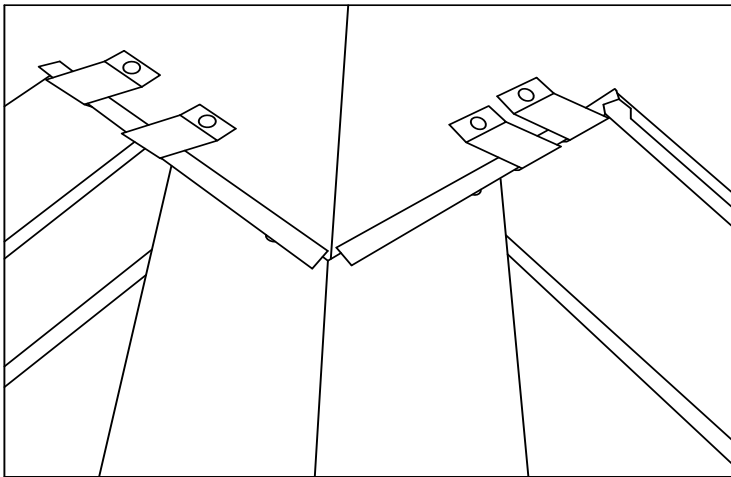
# Hip Treatment



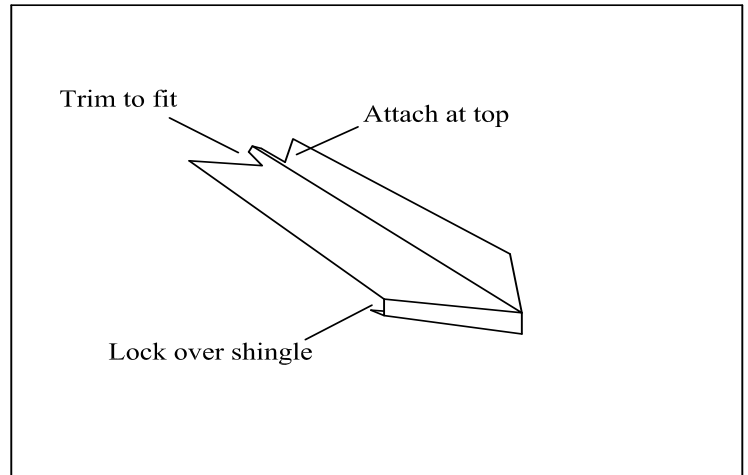
5. Ensure the bottomlock of the hip cap is locked over the nose of the shingle. The first cap will lock over the nose of the shingle and into lock on the Eave Starter.



6. Attach the top end of the hip cap. Locate the fasteners high on the cap, so they are covered by the shingle locks.



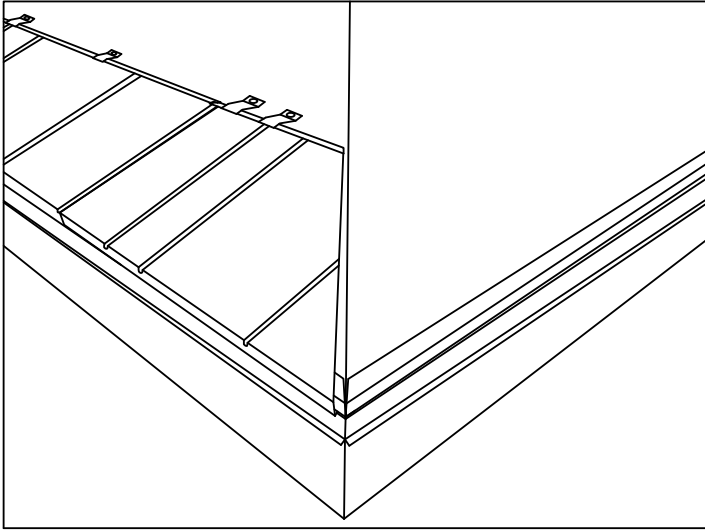
7. Fold the shingle toplocks back to their original position.



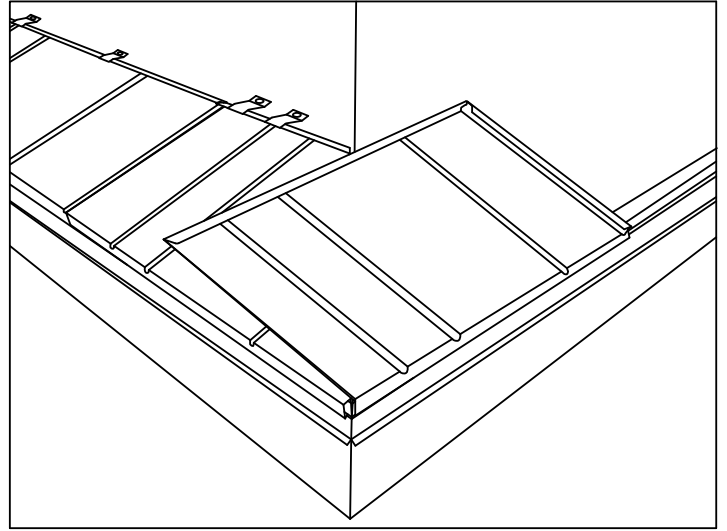
8. Lock the bottomlock of the hip cap over the nose of the shingle. Then fasten the top of the cap.

Install hip caps with each new course of shingles. Snap chalk lines on the hip line and align the hip caps to the chalk line.

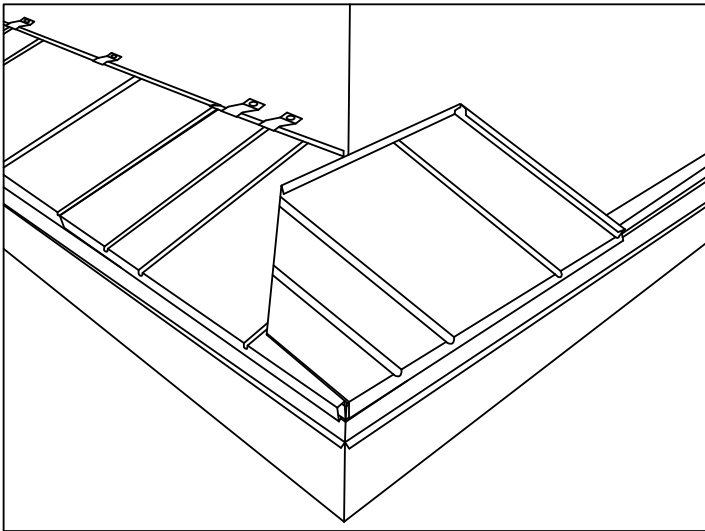
## Hip Treatment



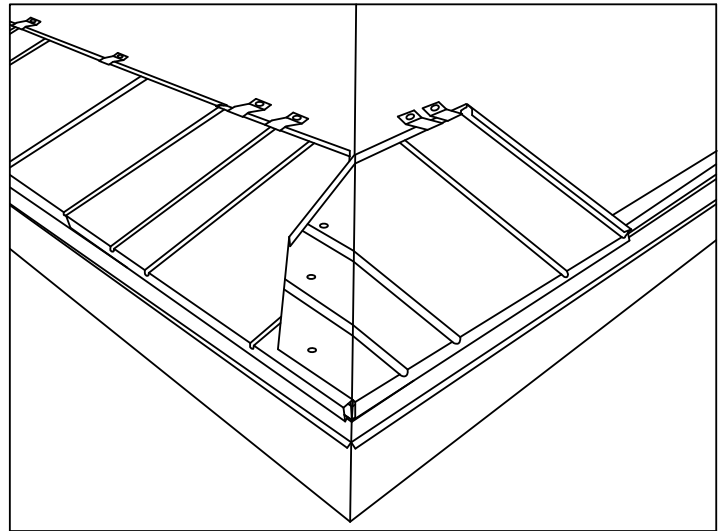
1. An alternative method to install the shingles at the hip is to fold the shingle over the hip line. Install the first shingle, and cut it at the hip.



2. Lap the second shingle over the first shingle.



3. Remove the portion of the shingle that will not be covered by the hip cap. Flatten the portion of the rain grooves that extend over the first shingle.

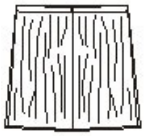


4. Fold the shingle over the hip. Attach with clips and through fasten the overlapping portion.

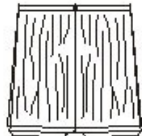
Install the hip caps as previously described.

## Hip Treatment

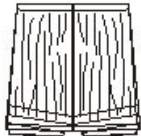
Ridge Caps can be installed on hips as an alternative to installing Hips Caps on the Hip. This procedure is necessary when the pitches for the fields on the sides adjacent to the hip are not equal. The following installation procedure describes the process.



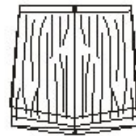
Start



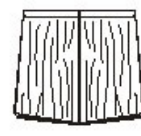
Unfold the  
bottom lock



Mark roof  
corner angle



Trim off  
excess material



Fold down  
new butt end



Fold  
bottom lock

Modify the first Ridge Cap (5407) to be installed on a hip, so it will fit over the shingle and lock into the Eave Starter Strip. Form the end of the cap to conform to the corner of the roof. See illustration above.

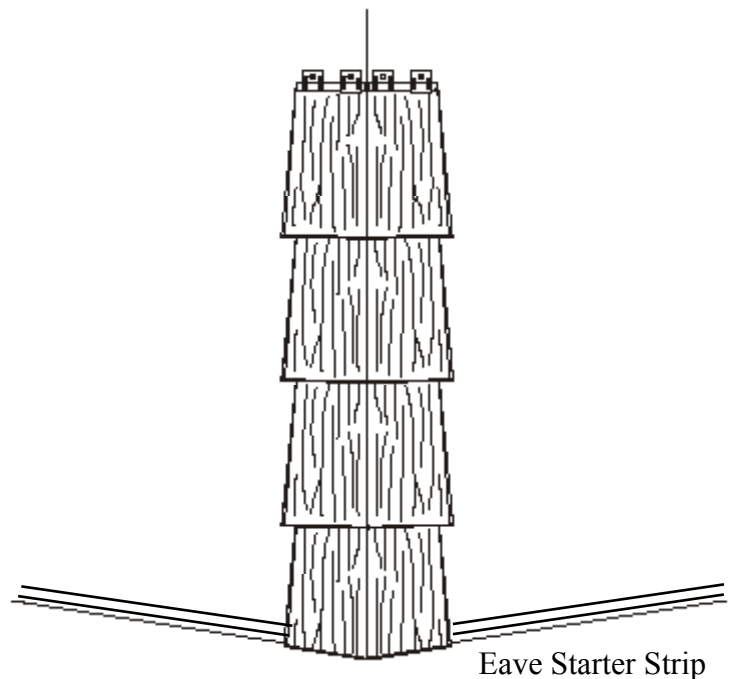
Flatten the shingle noses as needed to allow the caps to sit as flat as possible. This step is important in making the hip as water tight as possible. Use parallel chalk lines the width of the ridge caps as guides to avoid flattening the shingle too far out from the hip line.

Hook four Nail Clips into the toplock of the cap and attach them to the roof.

Fasteners must be long enough to penetrate solid decking.

Hip ridge caps are installed by inserting the bottom lock of the subsequent cap into the top lock of the preceding cap.

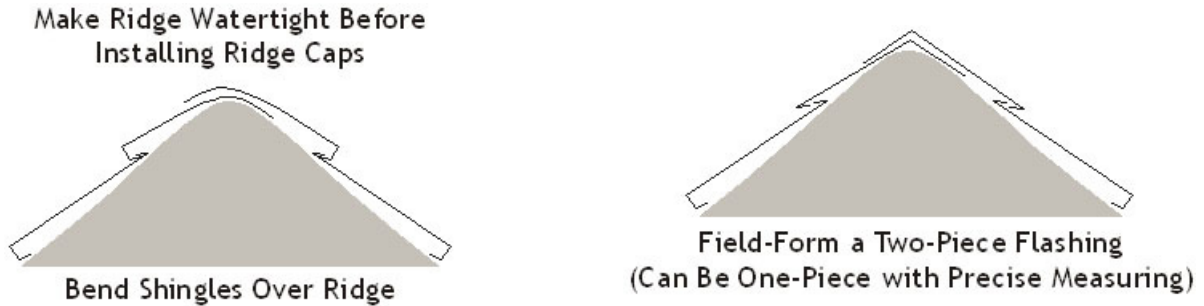
Install Hip and Ridge Caps the entire length of the hip. Ensure the caps are straight and firmly locked into each other.



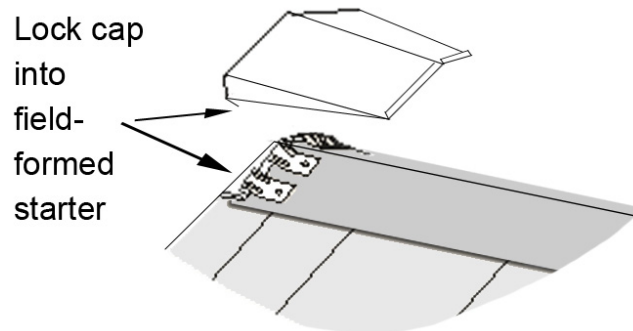
## Ridge Treatment

The ridge must be made watertight before the ridge caps are installed. Bend shingles over the ridge and attach them. Alternatively, field-form a flashing that locks into the toplock of the last full course of shingles and bend the flashing over the ridge.

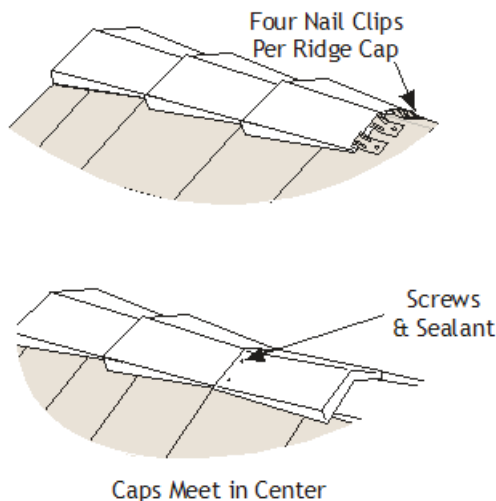
NOTE: On low pitch roofs when the shingle is cut short of the ridge, the top of the shingle should be brought up with lumber to maintain proper pitch.



Start the caps by removing the toplock from a cap and attaching it to the ridge with four nail clips (2 for each flange). Hook the bottomlock over this field-formed starter then attach the cap to the deck with four nail clips. Hook the bottomlock of the cap into the toplock of the attached cap. Fasten with four nail clips per cap. Continue installation across the length of the ridge.



The ridge caps can also be "met" in the center. If installation was started on the ends of the ridge and worked toward the center, trim one of the two center overlapping caps to give a symmetrical appearance, and attach both to finish the ridge. The last ridge cap in the center of the ridge must be face-fastened. Fasteners should be long enough to penetrate the solid substrate. Seal the fastener heads.

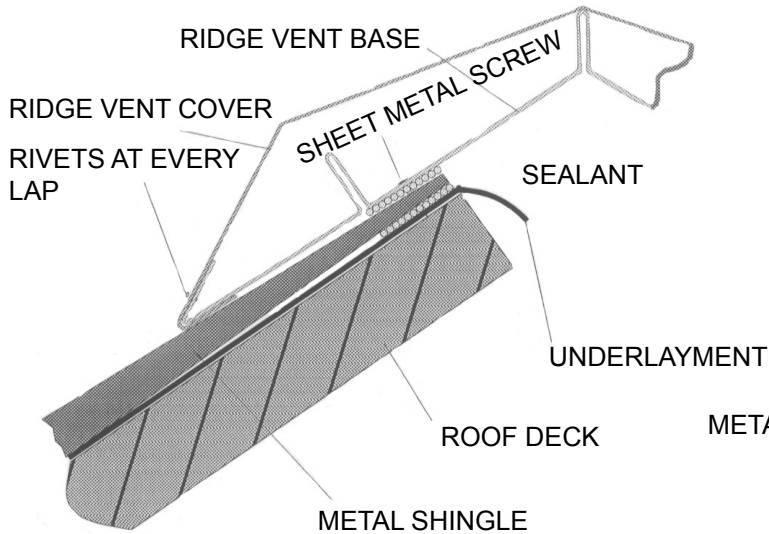




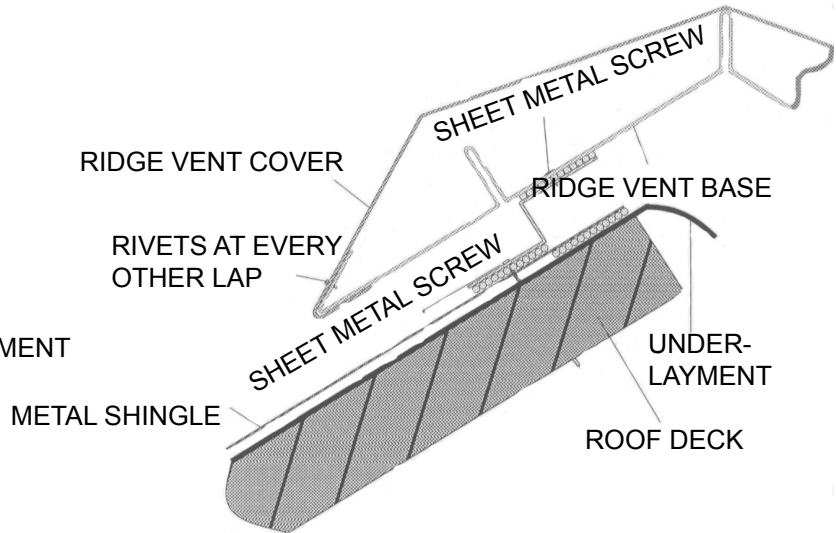
# Perma-Vent Installation

For standard installations, the use of Z Channels is not required, as ventilation can occur through the deep grooves of these shingles (Illustration 1). On installations where maximum ventilation is desired, the Z Channels described in step #5 are used (Illustration 2).

**Illustration 1**



**Illustration 2**

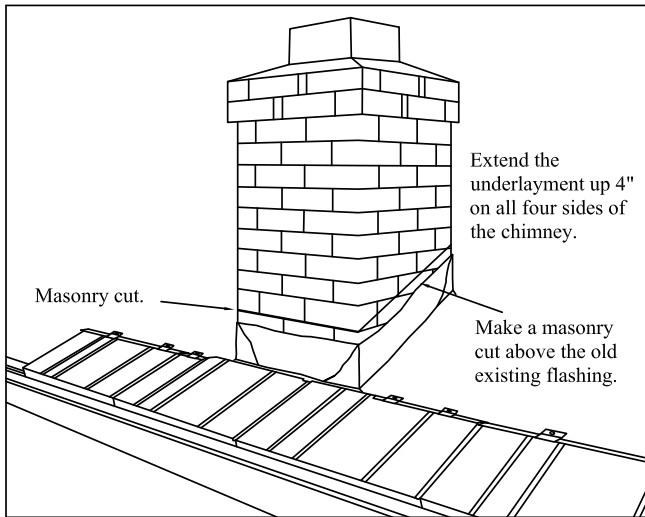


## Installation Instructions:

1. The roof should have a ridge opening of 3-3¼" width.
2. Install underlayment, wrapping it into the ridge opening and tacking it to the edge of the decking.
3. Install the roofing shingles to the ridge, cutting them as necessary to stop them at the opening. If the last course of shingles is 4 inches or less exposure, then either lay a 1 x 2" board under the uphill edge to raise its height or install custom-formed flat coilstock in place of the last course.
4. Place a ¾" wide by ⅜" high bead of sealant on the last course of shingles (or custom-formed coilstock), starting at the ridge opening and extending downward 1". (Note exception to this in step #5 if Z Channels are to be installed.) This sealant must have a minimum thickness of ⅜" and should completely fill any deep grooves in the roofing shingles. The bead of sealant should be level on its surface.
5. If desired, install Z Channels on either side of ridge by first laying the 1" bed of sealant 1" lower on the roof than described in step #4. Place the Z Channel with its top leg extending further uphill, out over the remaining 1" of roofing just below the ridge opening. Do not allow the Z Channel to obstruct airflow from the ridge opening. Fasten Z Channels to roof using stainless steel screws of adequate length to penetrate the roof decking by ½", 12" on center, down through the sealant. Place sealant on top of the screw heads.

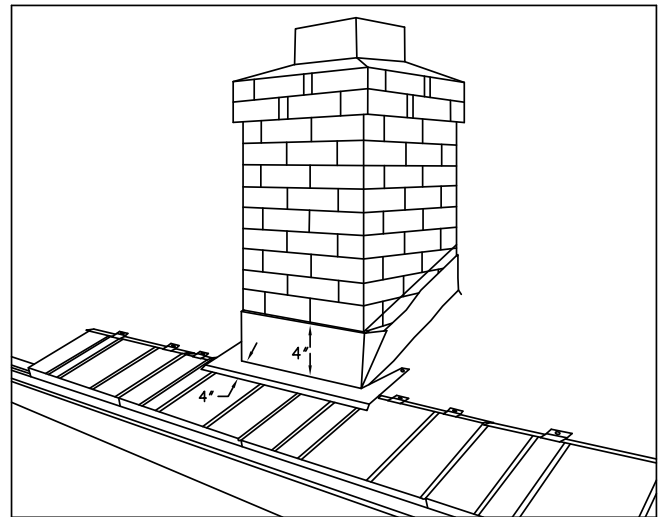
6. Place the Ridge Vent Base squarely over the opening (or over the Z Channels, if installed), pressing it down into the sealant. Fasten using stainless steel screws of adequate length to fully penetrate the roof decking on either side of the opening, 12" on center, down through the sealant. (If Z Channels have been installed, put a minimum  $\frac{3}{8}$ " x  $\frac{3}{4}$ " bead of sealant on the top legs of the Z Channels, place the Ridge Vent Base squarely over the ridge opening and the Z Channels, and use  $\frac{1}{2}$ " stainless steel sheet metal screws 12" on center to attach the Ridge Vent Base to the Z Channels.) Place sealant over the screw or rivet heads.
7. Install all subsequent pieces of Ridge Vent Base prior to installing Ridge Vent Cover. Ridge Vent Base pieces should be lapped by 4" by removing all three ribs and the outside returns from the upper pieces.
8. Snap the Ridge Vent Cover over the Ridge Vent Base. Ensure it is firmly locked into place on both sides. Subsequent pieces of Ridge Vent Cover should be overlapped by 4". The locks on either side of the top-lapped piece should be removed within this 4" area. Two beads of sealant, minimum  $\frac{1}{2}$ " wide by  $\frac{3}{8}$ " high, should be placed between the overlapped pieces. Secure the overlapped pieces at every joint to each other and to the Ridge Vent Base with  $\frac{1}{2}$ " stainless steel sheet metal screws or aluminum pop rivets. Seal the screw or rivet heads with sealant.
9. Ends of ridge vent assembly should be closed with a custom-formed cap made from matching coilstock. Cut the cap to fill the opening, allowing for an extra  $\frac{1}{2}$ " of metal on all sides to be bent 90° toward the middle of the roof. Insert the cap so that the extra  $\frac{1}{2}$ " is beneath the Ridge Vent Cover and beneath the Ridge Vent Base. Seal well between all pieces and use  $\frac{1}{2}$ " stainless steel sheet metal screws or aluminum pop rivets to securely hold the end cap in place. Seal the screw or rivet heads with sealant.

# Chimney Flashing

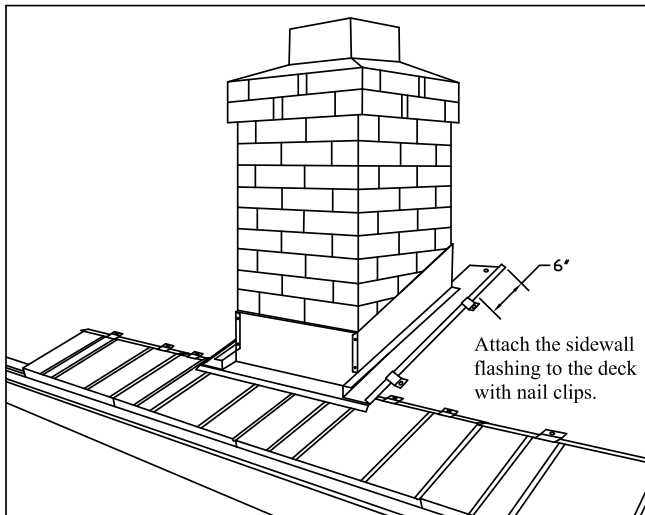


1. Install shingles up to the face of the chimney. If necessary, trim the shingles to fit around the chimney, or flatten the toplocks so the front flashing rests flat on the shingles.

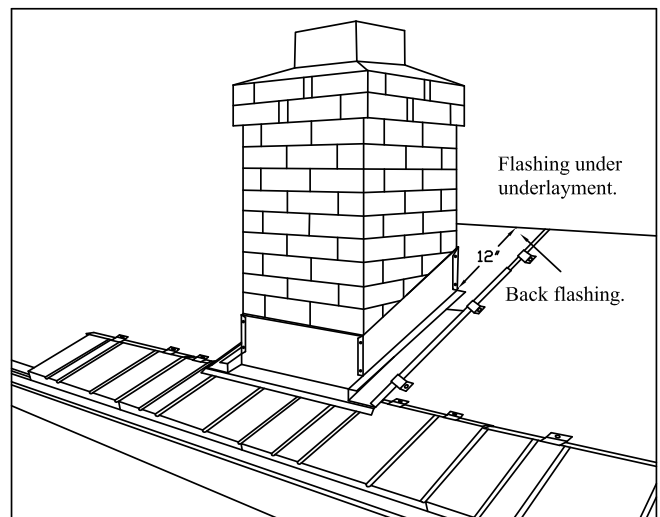
Note: If the chimney flashing from the previous roof is in good condition, leave it in place, and install the new chimney flashing over it.



2. Make a masonry cut  $\frac{1}{2}$ " deep around the chimney at a height above the deck  $\frac{1}{2}$ " short of the height of the sidewall flashing. Form a front flashing to extend 4" onto the front shingles, 4" past both sides of the chimney, and at least 4" up the front of the chimney to the height of the masonry cut plus  $\frac{1}{2}$ ". The flashing should wrap around the sides of the chimney. Form a  $\frac{1}{2}$ " lip at the top of the front, vertical leg to be inserted into the masonry cut.

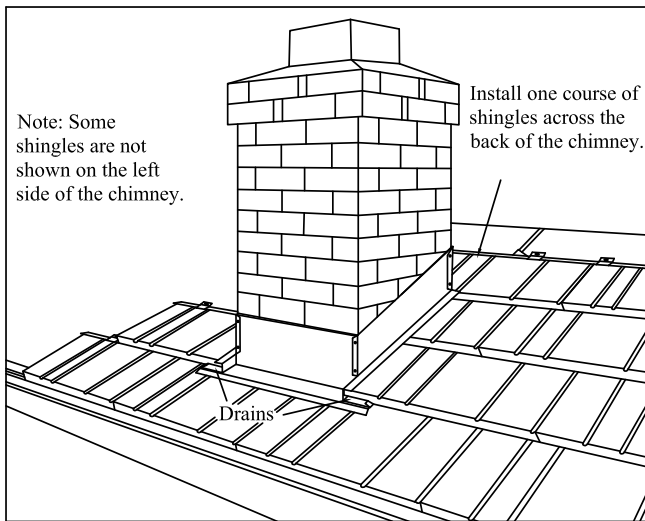


3. Install sidewall flashing on the sides of the chimney. The uphill end of the flashing should extend at least 6" past the back of the chimney. Form a  $\frac{1}{2}$ " lip on the top of the flashings to insert it into the masonry cut. Form tabs to wrap around the back side of the chimney. The downhill end of the flashings should rest on to of the lower shingles. The downhill end of the flashings should extend at least 1" past the bottom of the chimney and the toplock of the lower shingle. Attach the sidewall flashing to the front flashing with pop rivets. Seal the rivet heads. Apply sealant into the masonry cuts where the flashing lips are inserted .

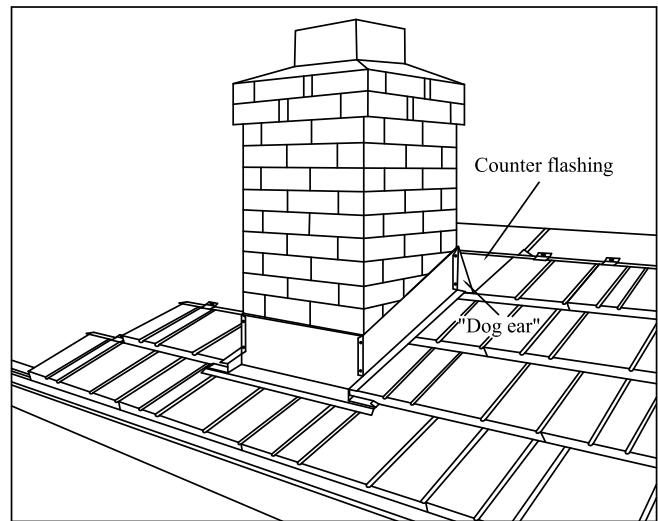


4. Form a back flashing that extends up the back of the chimney to the masonry cut plus  $\frac{1}{2}$ ", and up on the roof at least 12". Form a  $\frac{1}{2}$ " lip on the top of the flashing and insert it into the  $\frac{1}{2}$ " masonry cut. This flashing should span the distance between the water return flanges on the sidewall flashings and have upturned return flanges nesting inside those on the sidewall flashings. Form tabs to wrap around the sidewall flashings. If possible, tuck the uphill end of the flashing under the underlayment.

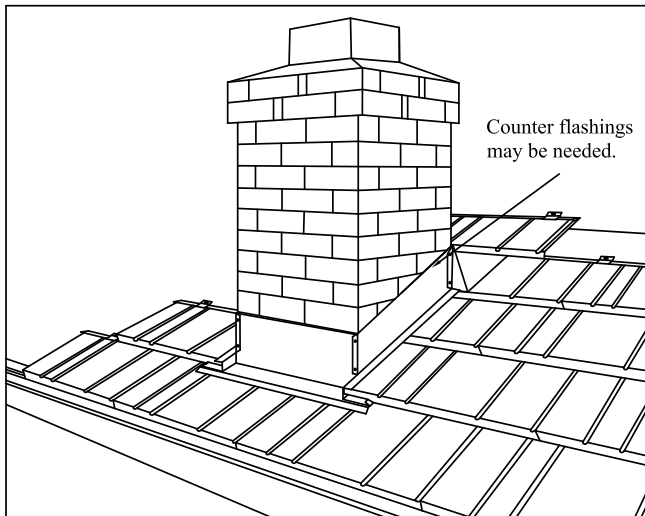
# Chimney Flashing



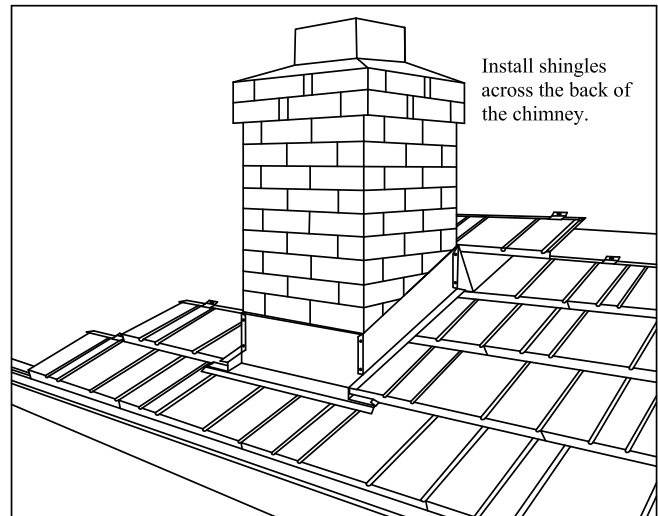
5. Install courses of shingles up the sides of the chimney. Cut a  $\frac{1}{4}$ " high drain slot in the lowest shingle installed into the sidewall flashing. Depending on how the courses fall, a siding starter strip may have to be installed across the back of the chimney to lock the bottomlocks of the shingles.



6. Form a counter flashing for the back of the chimney. Form a lip on the flashing to fit into the masonry cut. The uphill portion of the counter flashing should fit into the toplocks of the shingles. This back flashing should extend 3" past each side of the chimney, and it should have diagonal "dog ears" to divert water away from the chimney.



7. If the top legs of the sidewall flashings do not reach the masonry cut, form counter flashings over the sidewall flashings and insert the counter flashings into the masonry cut. Attach the counter flashing with pop rivets or other masonry fasteners that are compatible with aluminum.

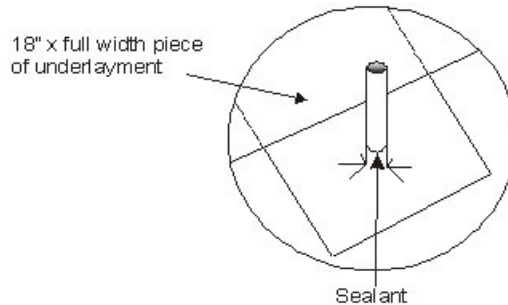


8. Once all the metal flashings are installed, seal all of the joints, all of the fastener heads, and the masonry cuts.

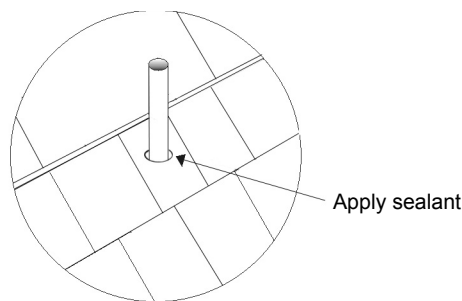
If the chimney is over 24" wide, install a cricket or saddle on the backside of the chimney to divert snow and water away from the chimney.

## Vent Pipe Flashing

Install an 18" by full width piece of underlayment over the vent pipe. Install this underlayment under the upper course of underlayment. The bottom edge of the underlayment should extend at least 6" past the bottom of the pipe. There should be approximately 8" of underlayment on each side of the pipe. Attach it to the deck with plastic-cap nails. Apply sealant around the perimeter of the pipe.

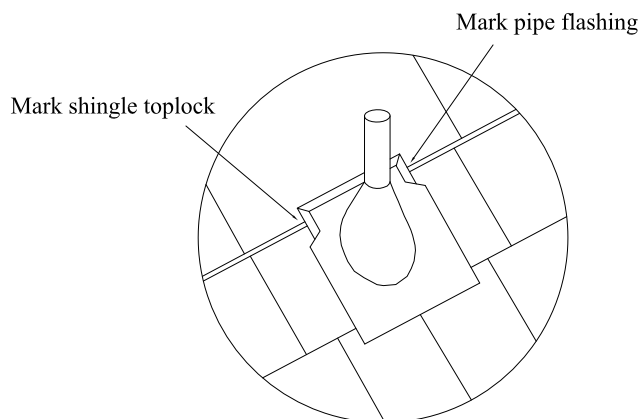


Install shingles under the pipe until the bottom edge of the vent pipe flashing extends onto the shingle. It may be necessary to remove a section of the shingle around the pipe. Remove as small of a section as possible to minimize the gap between the pipe and the shingle. Apply sealant around the pipe and on top of the shingle.



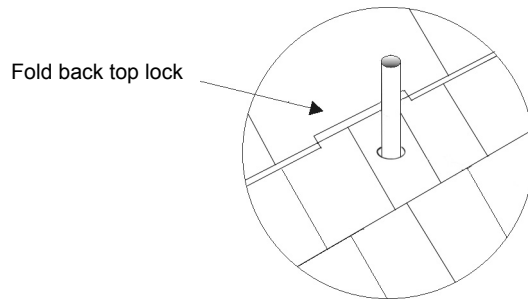
Slide the flashing over the pipe, and mark the vent pipe flashing where it intersects with the shingle toplock. Remove the flashing.

Form water return flanges on the top of the vent pipe flashing, and at the marks on the sides of the vent pipe flashing.



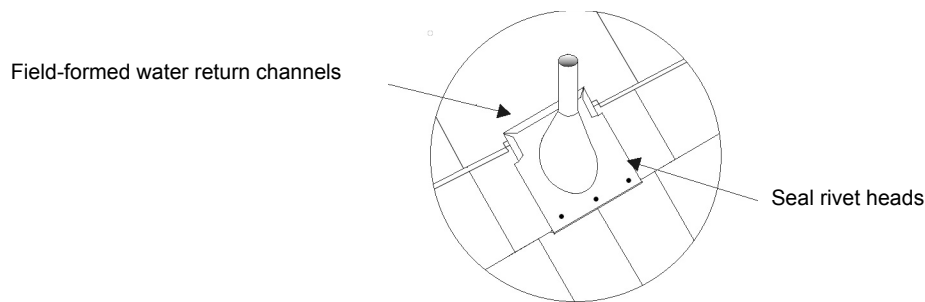
## Vent Pipe Flashing

Slide the flashing back over the pipe, and mark the shingle toplock where it intersects the vent pipe flashing. Remove the pipe flashing. Cut the toplock of the shingle at the marks. Fold the toplock of the shingle back against the roof deck. This allows the pipe flashing to rest flat on the deck.

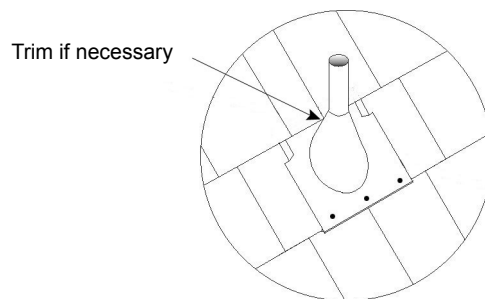


Apply a bead of sealant around the perimeter of the bottom side of the pipe flashing and slide it over the pipe. Attach the pipe flashing in place with pop rivets. Seal all rivet heads.

Note: the bottom edge of the vent pipe flashing may extend past the top of the lower shingle. If so, form a lock on the bottom of the flashing and lock it into the shingle.

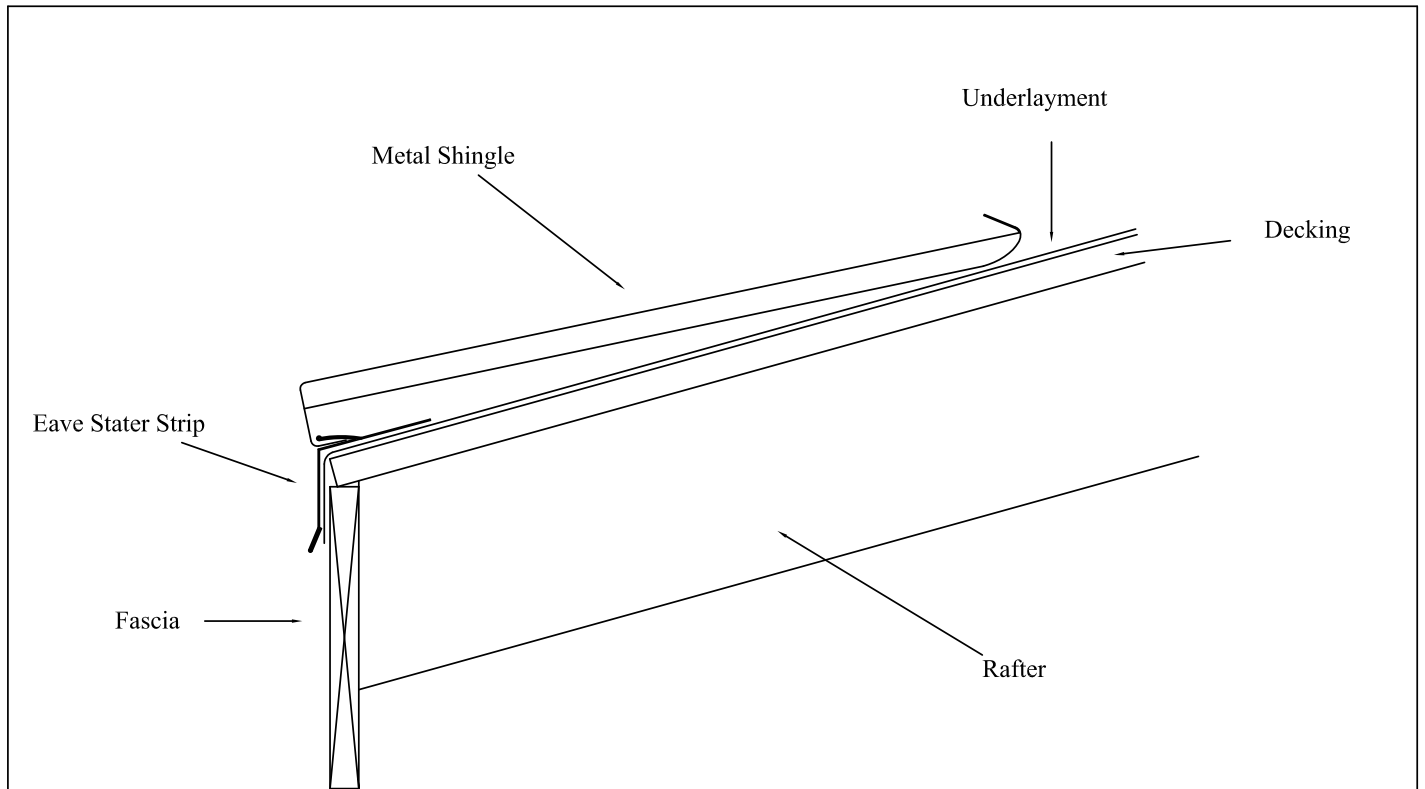


Install the next course of shingles over the pipe flashing. It may be necessary to trim a hole in the uphill shingle to fit around pipe flashing. Fill the hole in the shingle with sealant.

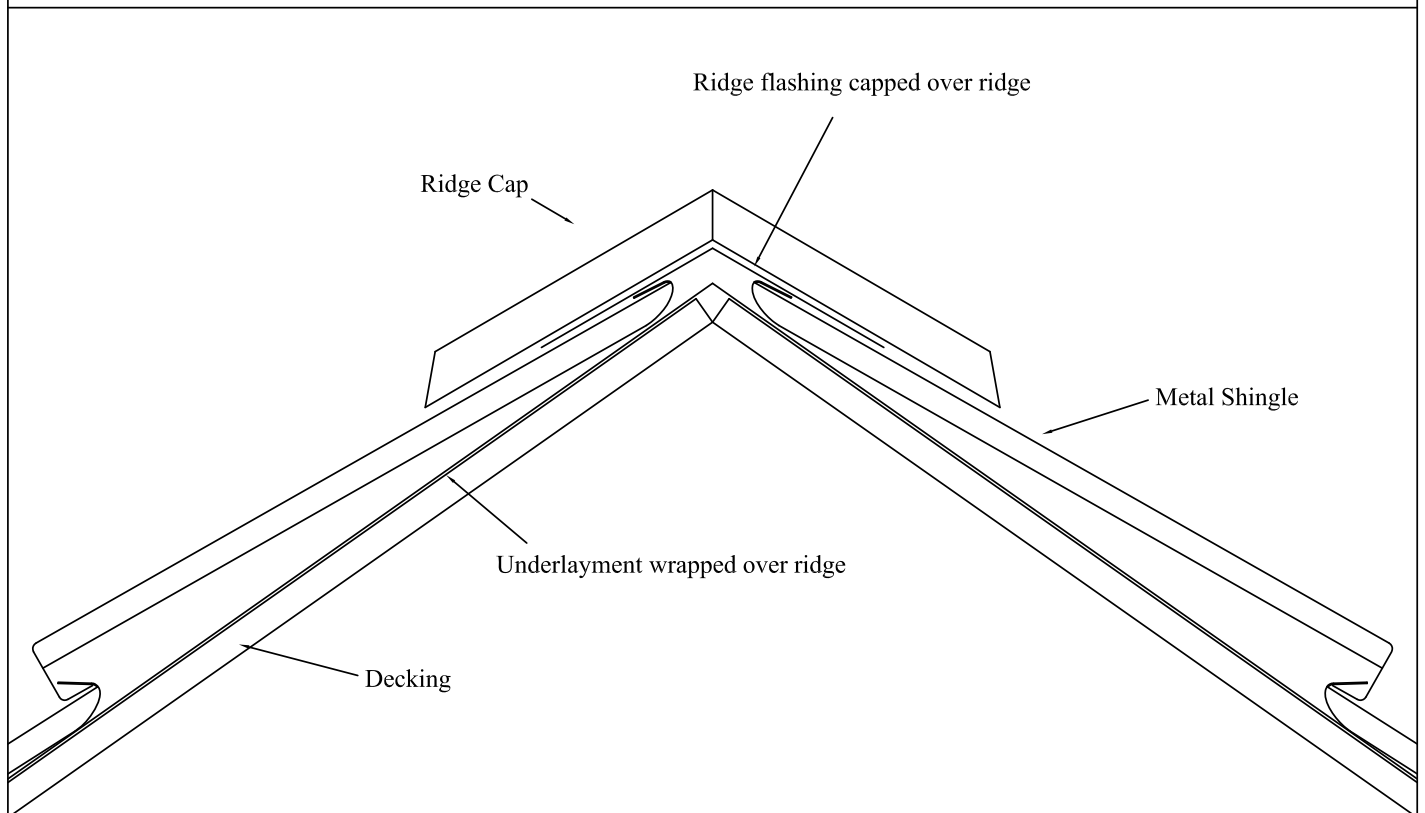


The rubber boot on most pipe flashings will degrade over time when exposed to UV radiation. Therefore, it is a very good practice to form a protective cone to slide down over the pipe and cover the boot. Form this cone out of coil stock and fasten together with rivets. Apply a ring of sealant around the pipe to form a water tight seal before sliding the cone down the pipe. If possible, seal around the uphill side of the base of the cone. Leave a small gap on the downhill side of the base of the cone for drainage.

## Installation Details

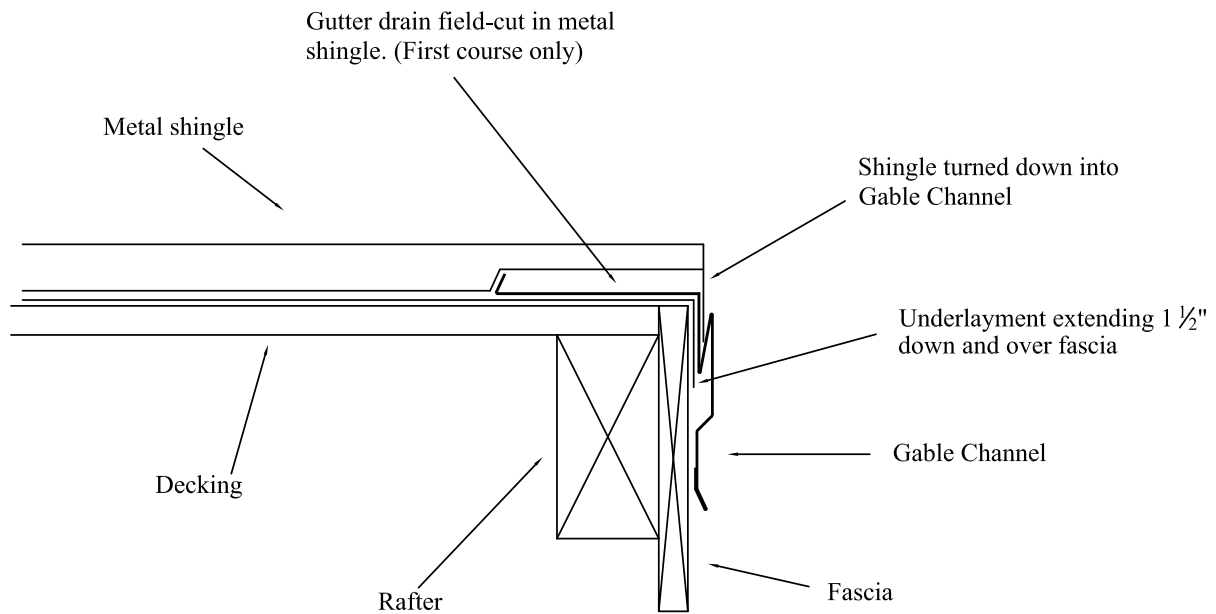


Eave detail

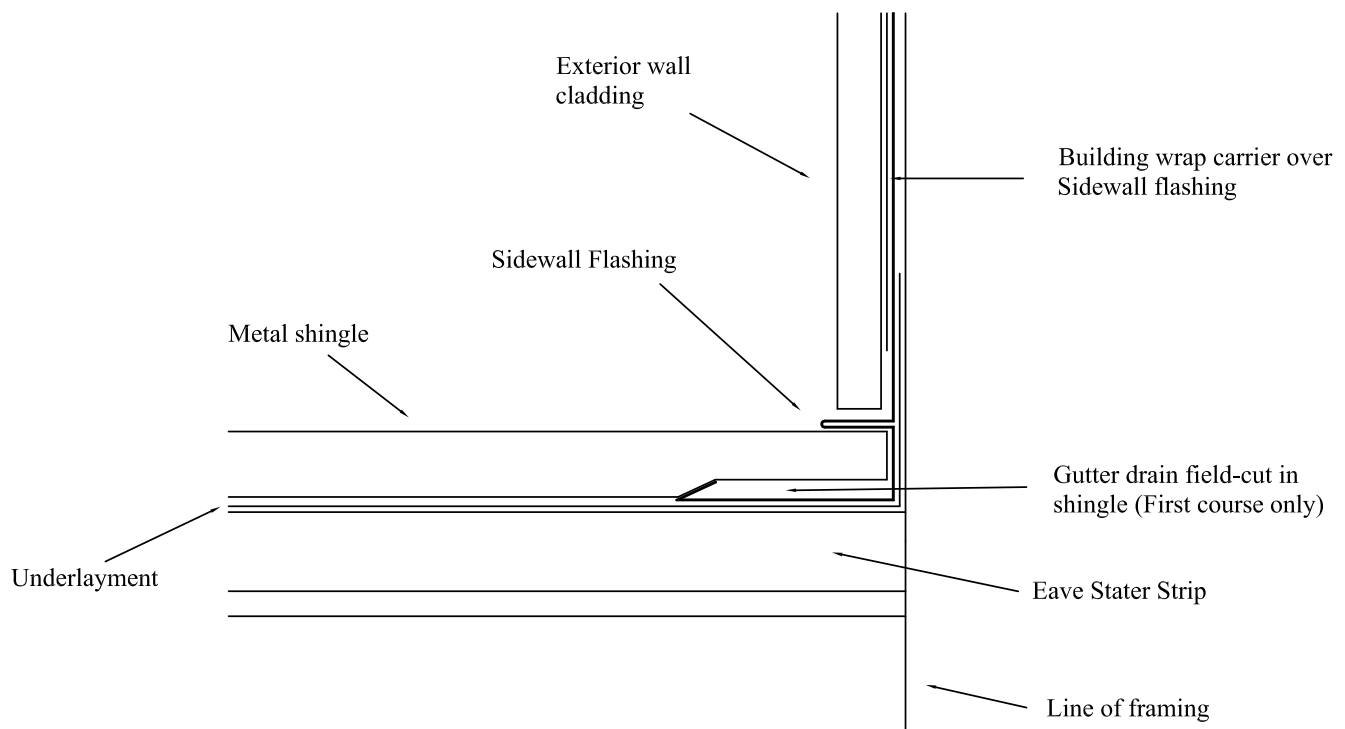


Non-vented ridge detail

# Installation Details



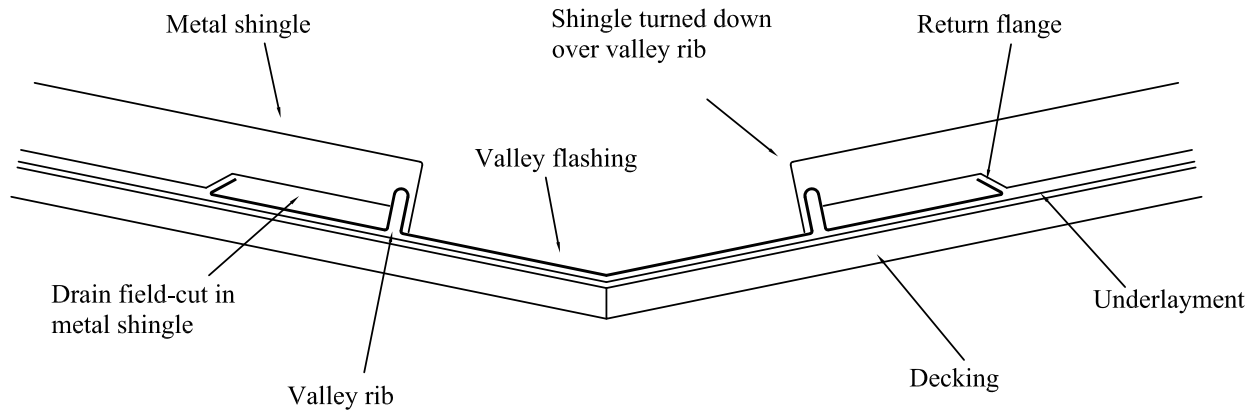
## Gable detail



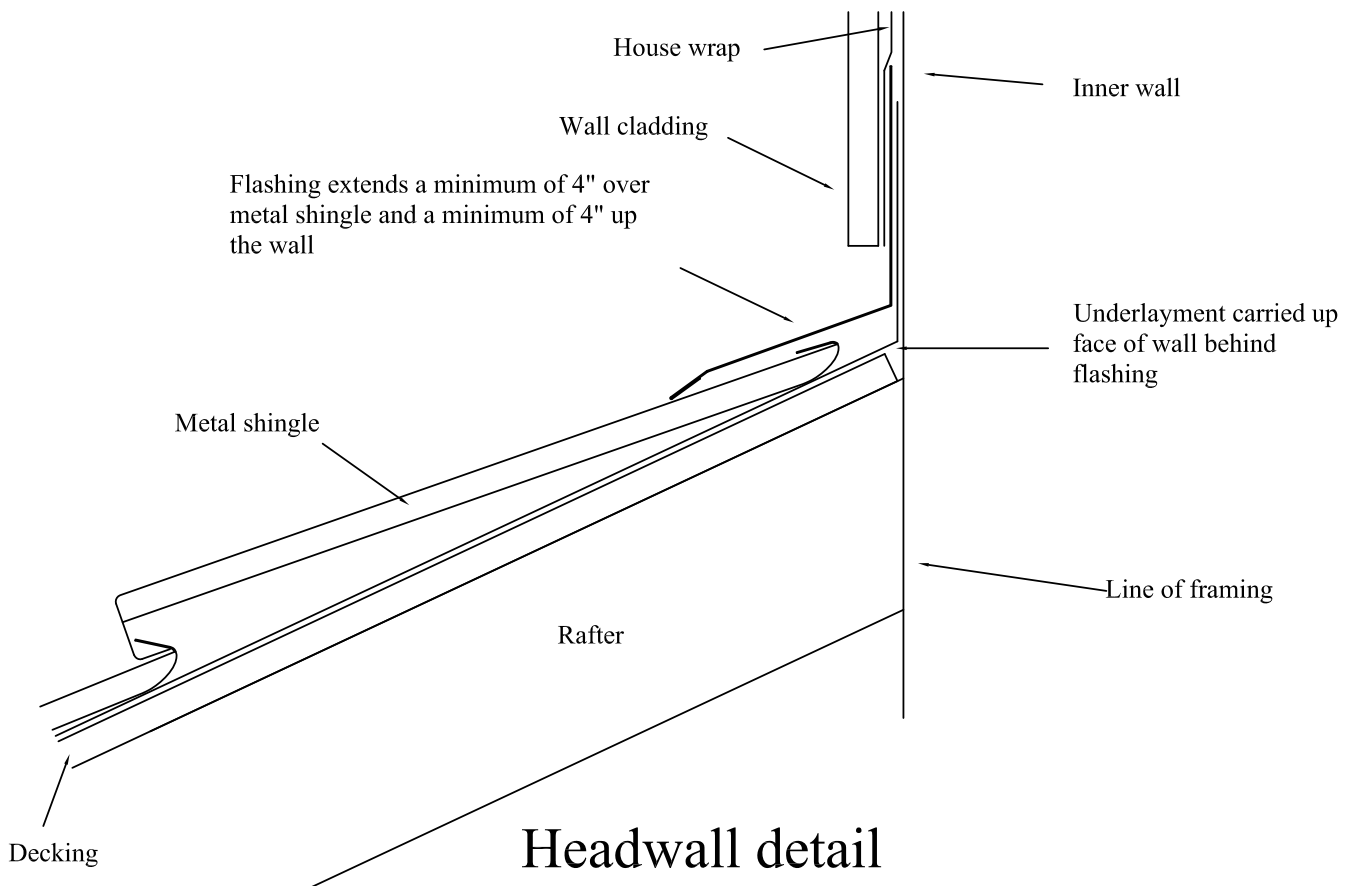
## Sidewall detail



## Installation Details

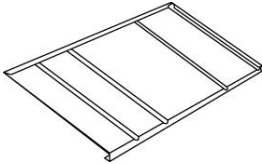
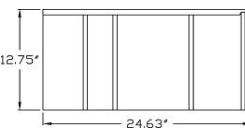
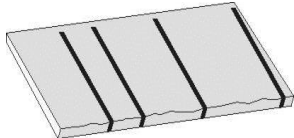


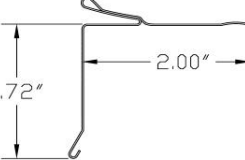

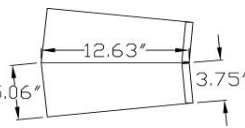
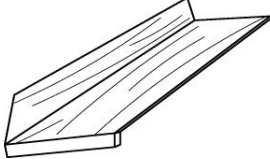
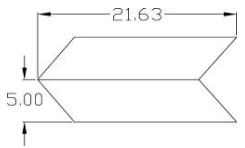
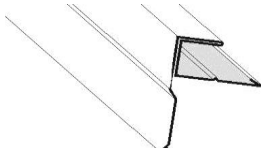
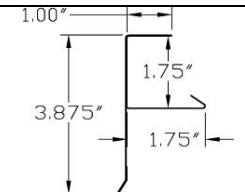
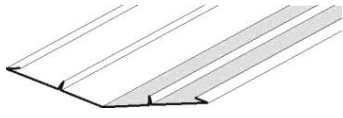
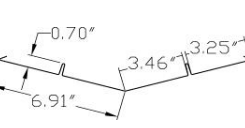
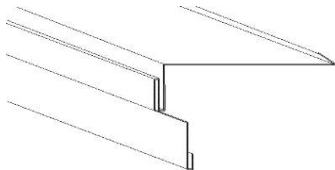
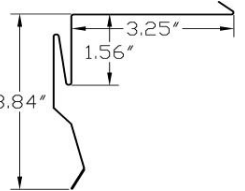

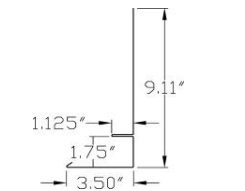


### Valley detail

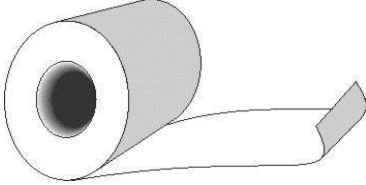


### Headwall detail

# Great American Shake Steel

PART NO.	PRODUCT	DIMENSIONS	SPECIFICATIONS & PACKAGING
5401	 GREAT AMERICAN SHAKE		Exposure 24"x12" Butt: 1 1/8" Per Carton: 25 panels Coverage: 1/2 square Gross Weight: 40 lbs.  <b>Residential &amp; light commercial use.</b>
4024	 STYROFOAM PANEL INSERT		24"x12" <b>Sold by 2 squares only.</b> <b>Used one per panel in areas requiring extra rigidity.</b>
5402	 EAVE STARTER STRIP		Length: 12' Per Carton: 10 pieces 120 lineal feet Gross Weight: 40 lbs.  <b>One-piece starter/drip combination</b>
5407	 RIDGE CAP		Length: 12" Butt 1 1/4" Per Carton: 60 pieces Gross Weight: 40 lbs. <b>For roof peaks &amp; mismatched hips. Ridges and hips must be watertight before 5407 installation.</b>
5408	 HIP CAP		Coverage: One Course Butt 1 1/8" Per Carton: 40 pieces Gross Weight: 40 lbs.  <b>For hips with equal roof pitches.</b>
5417	 GABLE EDGE TRIM		Length: 12' Per Carton: 5 pieces 60 lineal feet Gross Weight: 35 lbs. <b>Used as an alternative to the 5427 Gable Channel.</b>
5425	 OPEN VALLEY		Length: 12' Per Carton: 5 pieces 60 lineal feet Gross Weight: 50 lbs. <b>Self-cleaning valley</b>
5127	 GABLE CHANNEL		Length: 12' Per Carton: 5 pieces 60 lineal feet Gross Weight: 35 lbs.  <b>Fold-over Gable</b>
5429	 SIDEWALL FLASHING		Length: 12' Per Carton: 5 pieces 60 lineal feet Gross Weight: 35 lbs.  <b>Roof into sidewall flashing</b>

# Great American Shake Steel

PART NO.	PRODUCT	DIMENSIONS	SPECIFICATIONS & PACKAGING
5150	 FLASHING COIL	Width: 23.75", 50 lineal feet, 1 roll 66 lbs.	

## COLORS AVAILABLE:

Evergreen and Mission Red



*A Division of Isaiah Industries*

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## Conclusion

This manual covers basic detailed installation procedures for most common designs. There are roof designs not addressed in this manual.

For assistance with installation procedures on unique roof designs, please contact the manufacturer for assistance. 888-705-5656



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