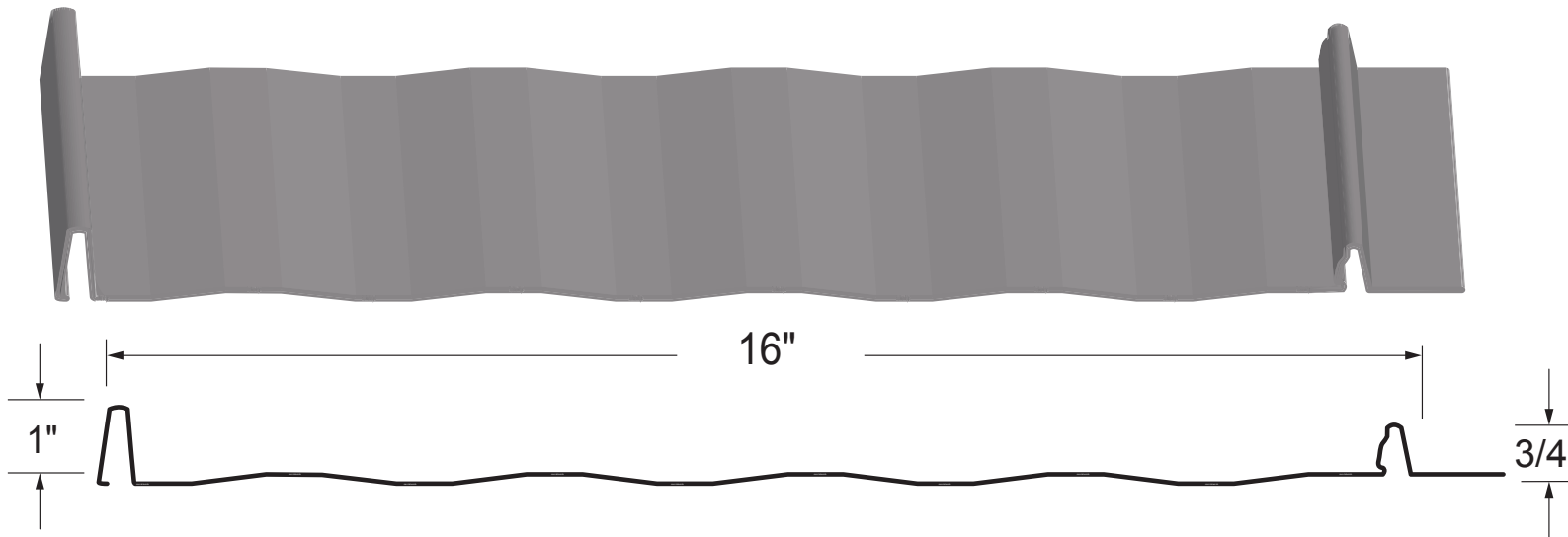


# **TRIP** **METAL** **S A L E S**



## **Installation manual for DC Panel-Lock**

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## **: Panel Information:**

D.C. Panel Lock is an economical, snap together, concealed fastener roofing panel. It is ideal for residential agricultural and commercial applications

## **:Standard Description:**

Panel Height  
Female Rib 1" - Male Rib 3/4"  
Panel Coverage: 16"  
Panel Width: 17 1/2"  
Substrate: G-60  
Gauge: 26ga  
Minimum Roof Slope: 3:12  
Metal: 80,000 psi

## **:Panel Coating & Finish:**

**Substrate: G-60**  
**Ext Finish: Ceram-a-Star 1050**

**:Recommended Decking:**  
**5/8" OSB with 30lb. felt**

**:Panel Length:**  
**Minimum - 3'0"**  
**23' and over a refundable crating deposit may apply**

## **General Information**

The installer should familiarize himself with all installation instructions before starting the job. Before installing the panels, the installer should examine the substrate or framing to ensure all supporting members are straight, level, and plumb to avoid any panel distortion. All substructures should be designed to meet all necessary building code requirements.

The information contained in this manual is designed to serve as a guideline on how to install DC Panel-Lock metal panels. The installation detail shown are proven methods of construction, but is not intended to cover all instances, building requirements, designs or codes. It is the responsibility of the designer/installer to ensure that the details meet particular building requirements. The installer must be aware of, and allow for, expansion/contraction of roof panels. The details may require changes or revisions due to each project's conditions.

## **Delivery and Handling**

Always check the shipment upon delivery, Check for damage and check materials against the shipping list. Always notify your D.C Metal sales rep within 24 hours about any damaged or missing pieces.

Each bundle should be handled carefully to avoid being damaged. Care should be taken to prevent bending of the panel or scratches on the finish. If the bundles must be opened, we recommend that you recreate them before moving of the bundles, always lift the bundle at it's center of gravity to avoid damaging the panels.

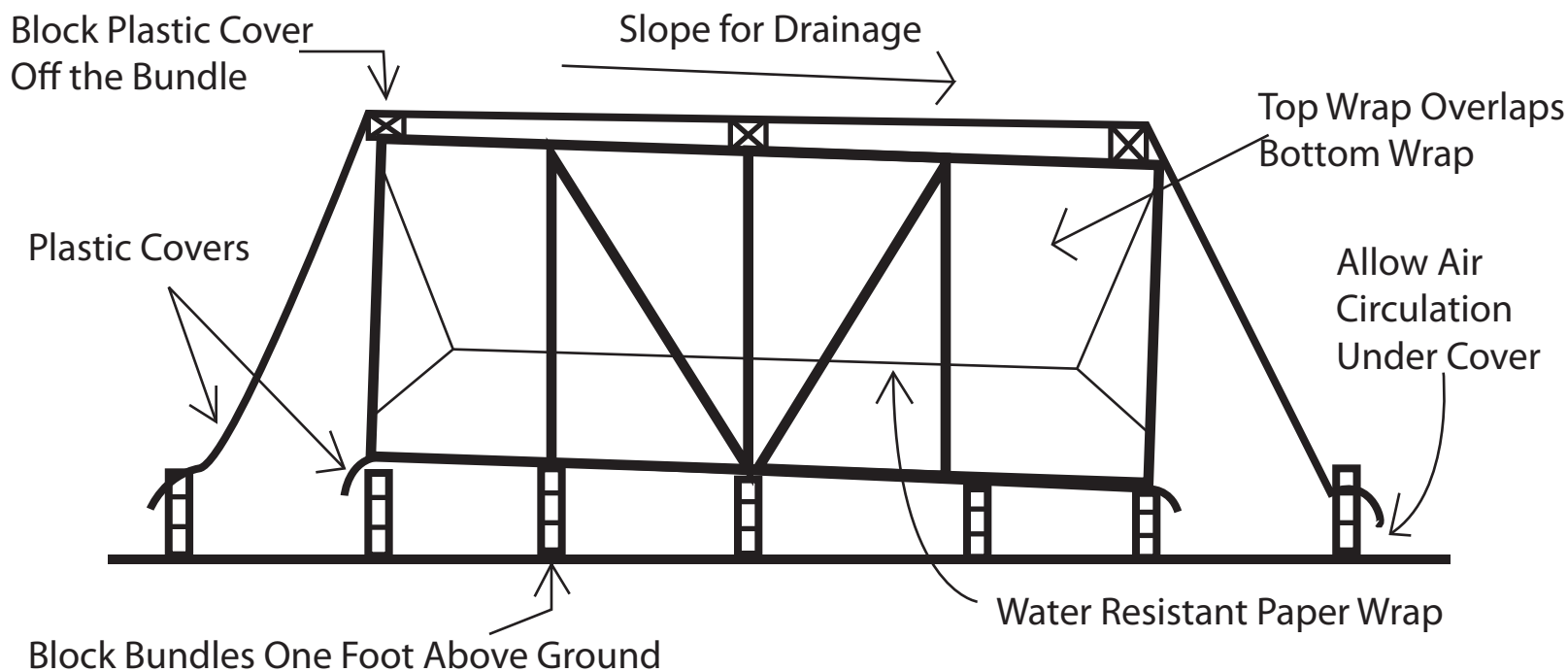
Note: Improper loading or unloading of bundles and crates may result in bodily harm and/or material damage. D.C. Metal Sales is not responsible for bodily injuries or material damages resulting from loading or unloading the material. When handling Panel-Lock bundles less than 25 feet in length they may be unloaded with a fork lift. Forks should be at least five feet apart, and the package should be picked up at the center point. When handling Panel-Lock bundles longer than 25 feet, you must use a spreader bar system or something similar.

Oil canning (wrinkled appearance) in the flat area of the panels is common to the industry and shall not be a cause for panel rejection.

## STORAGE AT THE JOB SITE

It is recommended that panel bundles be stored under a roof whenever possible. If panel bundles are stored outside, the following list of requirements should be adhered to:

1. The storage area should be reasonably level, and should be located to minimize handling of bundles during the construction process.
2. When storing on bare ground, place a plastic ground cover under the bundles to minimize condensation on the panels.
3. Store bundles at least 12 inches above ground level to allow air circulation beneath the bundle, and to prevent rising water from entering the bundle.
4. Elevate one end of the bundle slightly to permit runoff of moisture from the top of the bundle or from between nested panels. Water-resistant paper will not provide long-term resistance to moisture penetration from puddled water on top of the bundle. A waterproof cover should be placed over the bundles, with allowance for air circulation under the cover (see Figure 4).
5. Inspect stored bundles daily and repair any tears or punctures in the water-resistant wrapping with a compatible waterproof tape.
6. Re-cover opened bundles at the end of each day to prevent entry of moisture.



## Safety Considerations

The installation of D.C. Metal Panel-lock is a dangerous procedure. The installer of the D.C. Panel Lock is responsible for reading these instructions and determining the safest way to install the D.C. Metal Panel-Lock. Never walk on the panel seams. Always walk in the flat areas of the panel. Never step on unsecured panels. Metal panels can be slippery when wet or dusty. Do not work on a metal roof when these conditions are present. **ALWAYS BE AWARE OF YOUR SURROUNDINGS!**

## Roof Preparation

The DC Panel-Lock is an excellent choice for residential or commercial buildings. But, there are several topics an installer must address before installing DC Panel-Lock.

### On New Construction

DC Panel-Lock is designed to be installed over solid decking. Make sure roof is clear of any debris that might interfere with installation. DC Metal recommends the installer uses no less than 30lb felt underlayment.

Installer needs to utilize an alignment or chalk line where the first panel is installed. DC Metal recommends that this line be vertical and square with the eave. Other methods of confirming the modularity (or squareness) can also be used. Replace any decking that does not meet those requirements.

### On Existing Roofing

DC Panel-Lock is designed to be installed over solid decking. For Best Cosmetic Results DC Metal does not recommend installing DC Panel-lock over existing asphalt shingles.

### Fastener Spacing 16"

Maximum fastener spacing for DC Panel-Lock with wind loads up to 80mph.

Deck Thickness >	1/2"	Screw Spacing >	18"o.c.
	5/8"		21"o.c.
	3/4"		24"o.c.

Note: Slot on leg may not coincide with above chart!

## Recommended Tools & Equipment

### Minimum Recommended Tools & Equipment

#### Electric Screw Gun

#### Snips

#### Tape Measure

#### Electric Metal Shear \*

#### Caulk Gun

#### Electric Drill

#### Chalk Line

#### Hem Tool

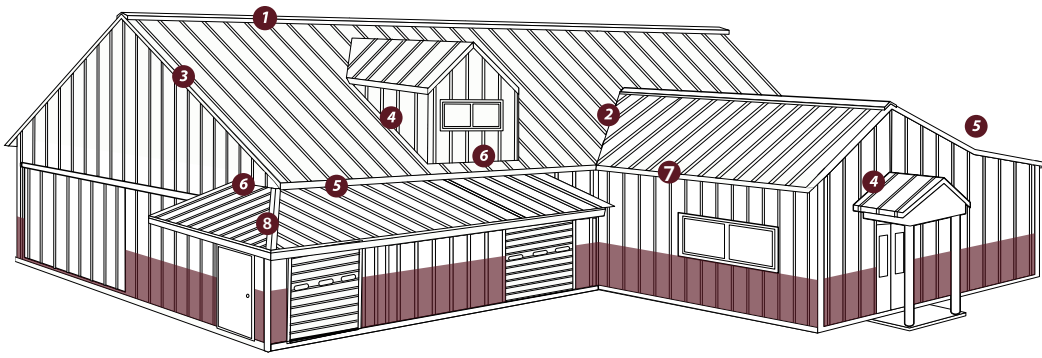
#### Safety Equipment

(according to local safety codes)

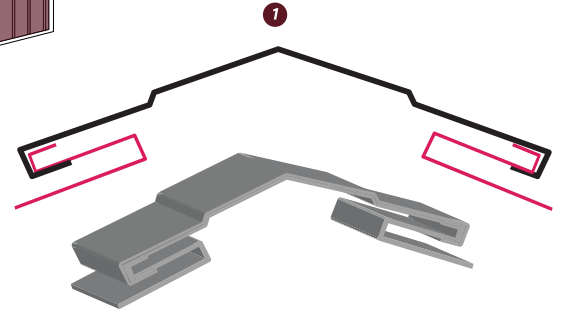
\*We do not recommend the use of a power circular saw. Use of a power saw could:

- 1) Increase the instance of edge rust
- 2) Increase metal particles on a panel surface which could damage panel finish

Installer must have prior experience and knowledge of the listed tools and their uses in working with metal roofing.

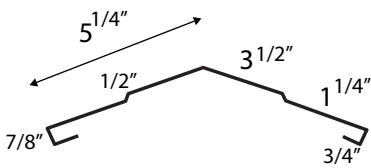


Panel Lock Vent Strip & Ridge Cap



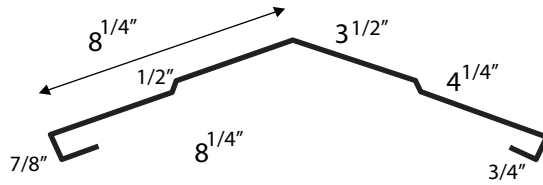
**10<sup>1</sup>/<sub>2</sub>" Panel Lock Hip Ridge\***

10'6" length



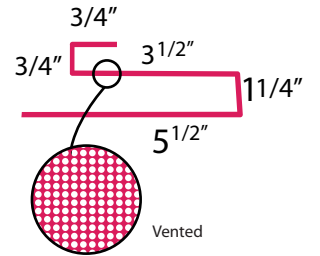
**Panel Lock Ridge Cap\***

10'6" length



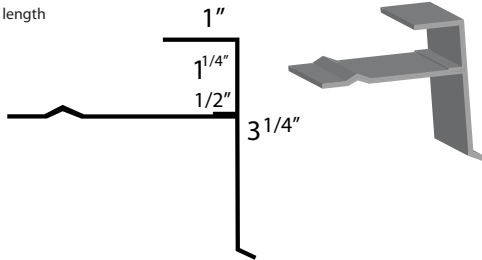
**Panel Lock Vent Strip\***

10' length



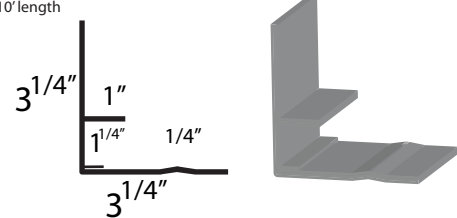
**Panel Lock Rake\***

10' length



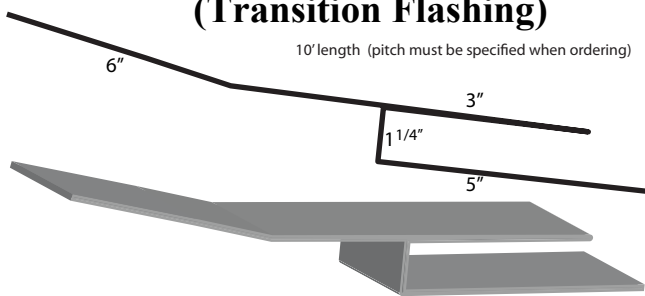
**Panel Lock End Wall Flashing\***

10' length



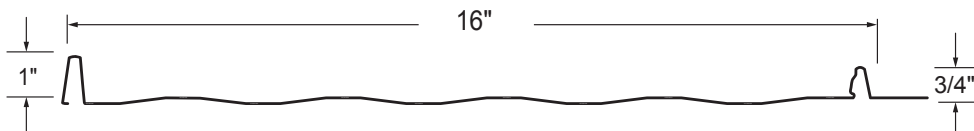
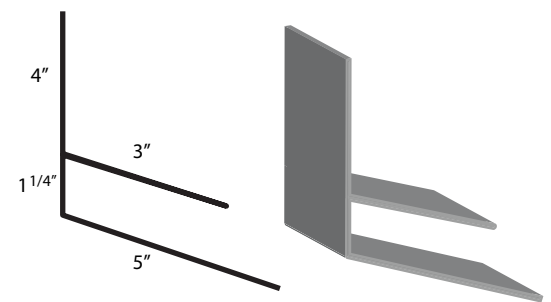
**Panel Lock Dual Pitch\* (Transition Flashing)**

10' length (pitch must be specified when ordering)



**Panel Lock Side Wall Flashing\***

10' length (pitch must be specified when ordering)

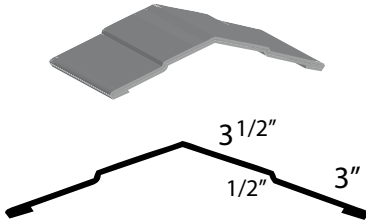


**Panel Lock & Trim**

\*nonstocked trim piece

## 14" Ridge Cap <sup>1</sup>

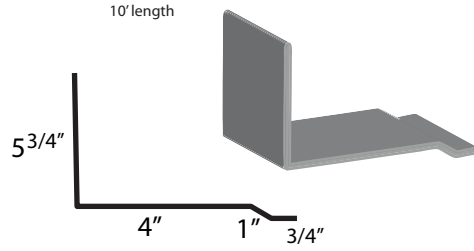
10'6" length



20" Ridge Also Available

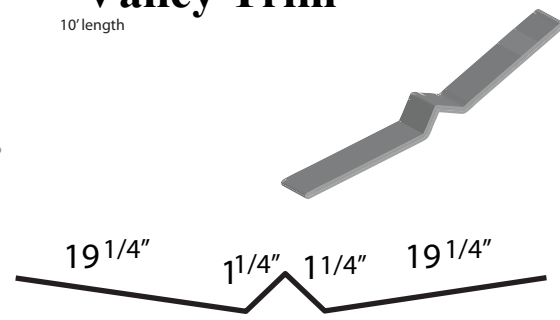
## Endwall Flashing <sup>4</sup>

10' length



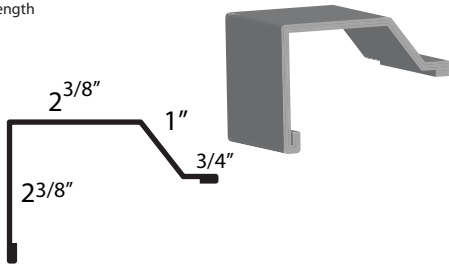
## Valley Trim <sup>2</sup>

10' length



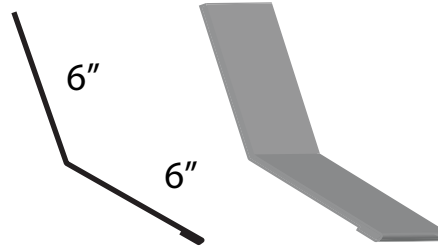
## Residential Rake <sup>3</sup>

10' length



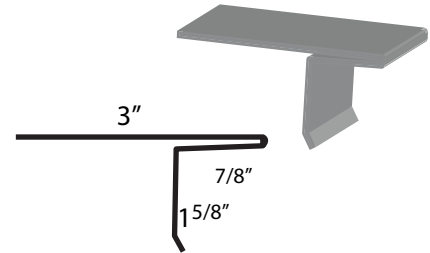
## DC Sidewall Flashing (Transition Flashing) <sup>5 6</sup>

10' length (pitch must be specified when ordering)

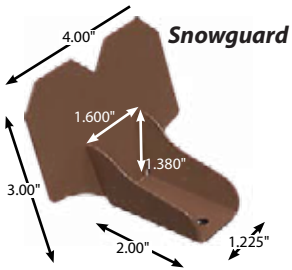


## Roof Edge <sup>7</sup>

10' length



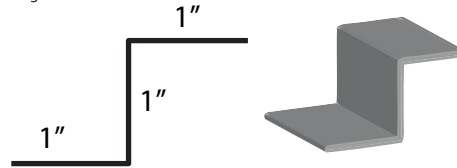
## Accessories



**Snowguard**

## Z-Bar (closure)

10' length



## Versa Vent Vented Closure 10' Roll



**Screws**

Available Lengths  
1" • 1.5" • 2" • 2.5" • 3"  
All Standard Stock  
Colors available



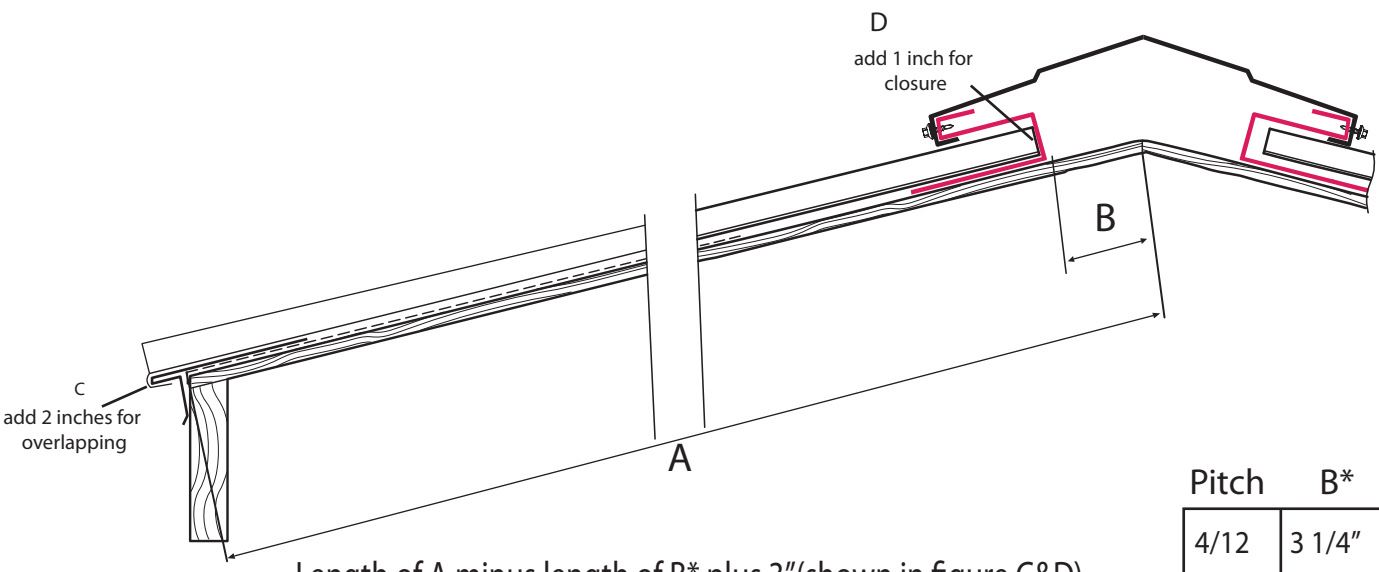
**Panel Lock  
Screws**

## Roof Boot



- |    |                 |
|----|-----------------|
| #1 | 1/4" - 2-1/2"   |
| #2 | 1-3/4" - 3"     |
| #3 | 1/4" - 5"       |
| #4 | 3" - 6-1/4"     |
| #5 | 4-1/4" - 7-3/4" |
| #6 | 5" - 9"         |
| #7 | 6" - 11"        |
| #8 | 7" - 13"        |

# Hidden Fastener

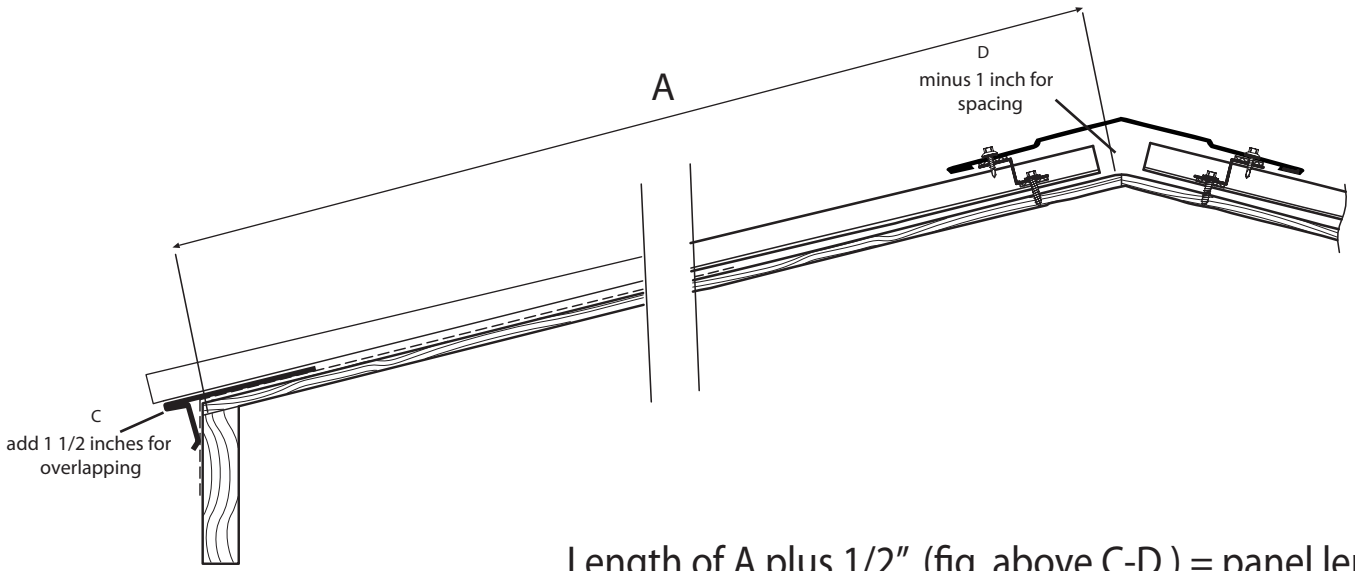


Length of A minus length of B\* plus 3" (shown in figure C&D)

\* B is determined by pitch chart.

Pitch	B*
4/12	3 1/4"
6/12	2 3/4"
8/12	2 1/4"
10/12	2"
12/12	1 3/4"

# Exposed Fastener



Length of A plus 1/2" (fig. above C-D) = panel length



## Hidden Fastener

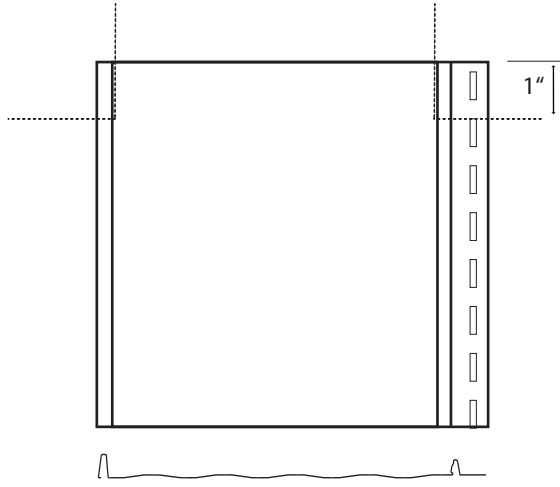


fig. 1

You must modify the panel ends to ensure a quality roof. The bottom must be hemmed to create a hook and the top must be folded up to create a water barrier. Follow the steps below.

Top or ridge end.

step 1. Measure down 1" from the top edge. (see fig. 1)

step 2. Cut and remove the male and female legs of the panel. (see fig. 2)

step 3. Using a hemming tool fold the flat part of the panel up 90degrees. (see fig. 3)

step 4. Apply a vertical bead of caulk on each side. To ensure a water tight seal between the flat part and the legs.(see fig. 4)

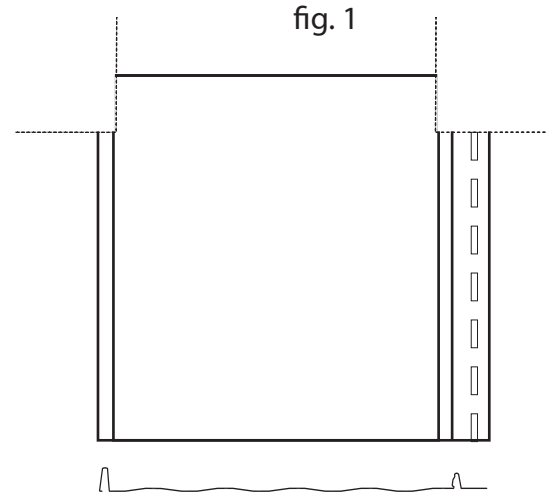


fig. 2

Bottom or eave end.

step 1. Measure up 7/8" from the bottom edge (see fig.5)

step 2. Cut and remove the male and female legs of the panel. (see fig. 6)

step 3. Using a hemming tool fold the flat part of the panel down and around to create a hook. (see fig.7) This will hook on the roof edge trim. (see page11)

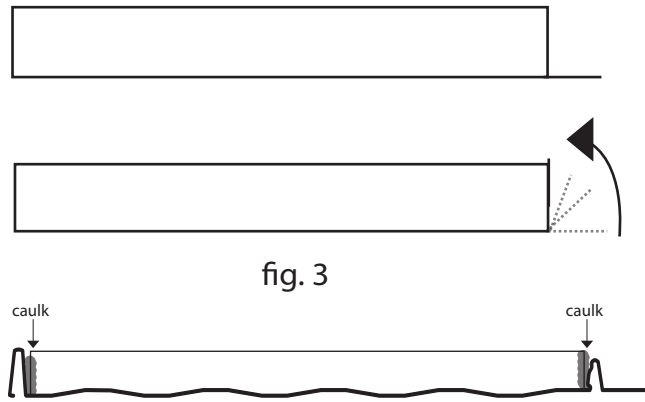


fig. 3

fig. 4

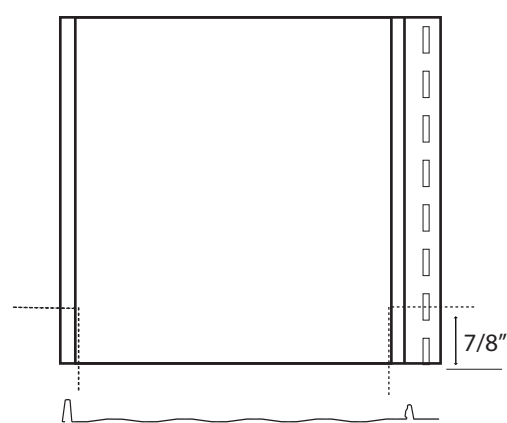


fig. 5

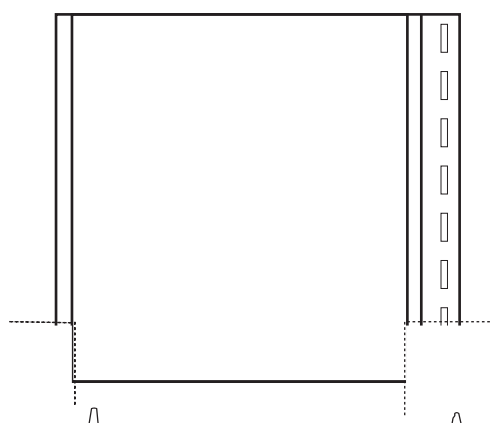


fig. 6

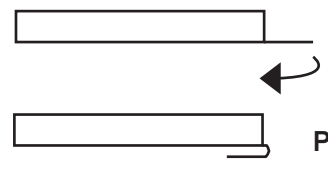
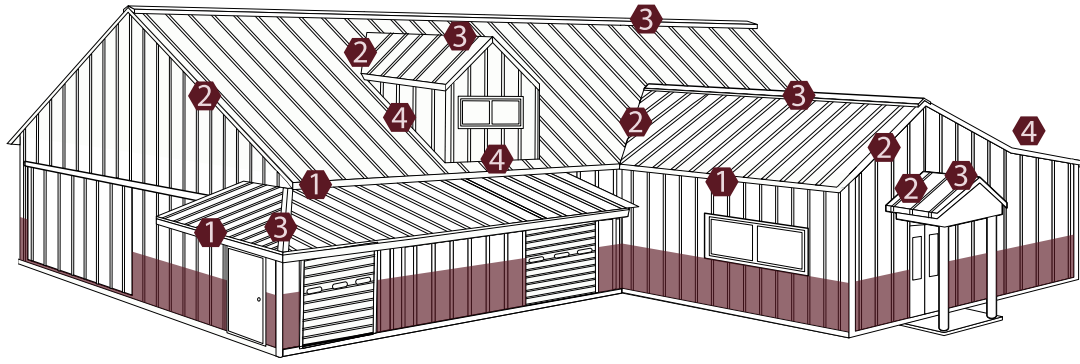


fig. 7

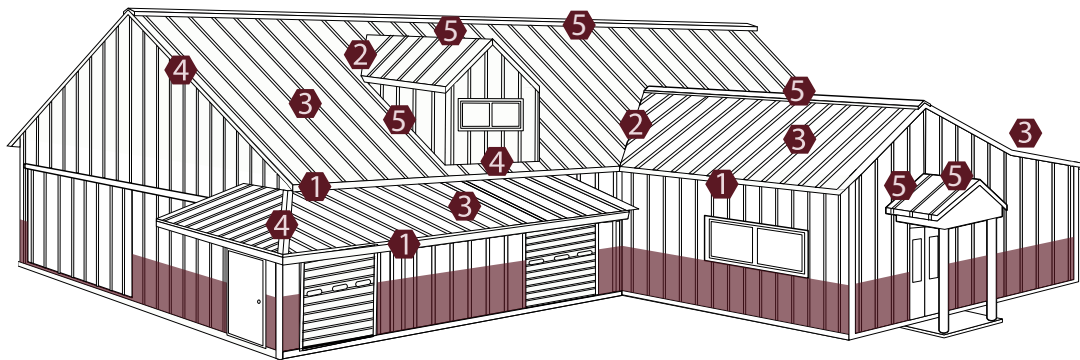


## Hidden Fastener System

Steps to installing DC Panel-Lock Hidden Fastener System

1. Install all roof edge trim
2. Install all vertical trims (rake, valley, endwall)
3. Install vent strips and ridge cap
4. Install all remaining trims (transition and side wall trim)

Now you are ready to install the D.C. Panel-Lock roof panels.



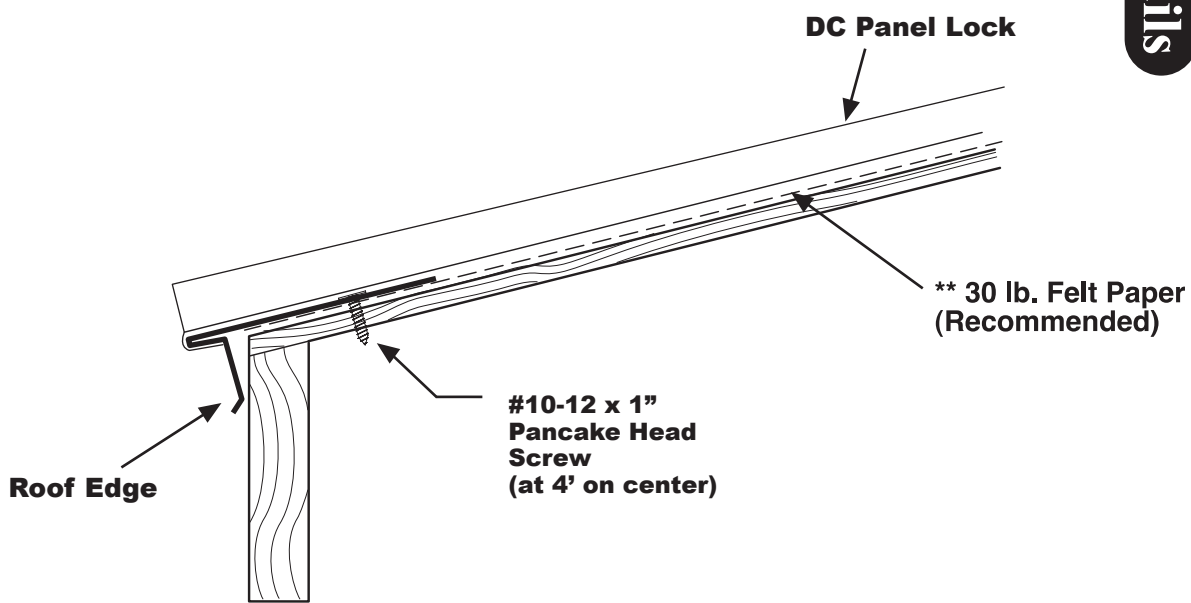
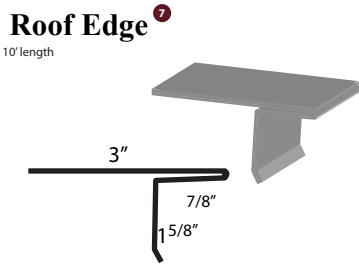
## Exposed Fastener System

Steps to installing DC Panel-Lock Exposed Fastener System

1. Install all roof edge trim
2. Install all valley flashing trim
3. Install all D.C. Panel Lock Metal Panels  
(for transition see page 16)
4. Install all rake trim, endwall trim
5. Install all sidewall trim, ridge cap and remaining trims

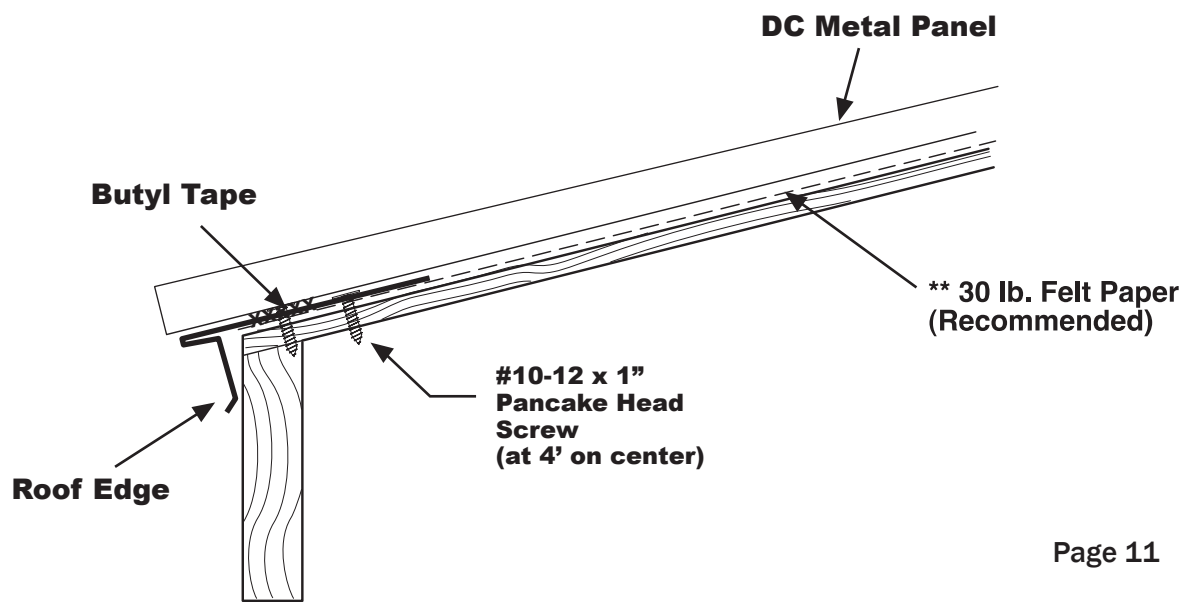
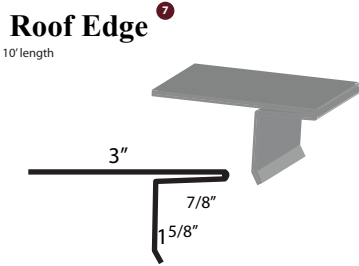
### Hidden Fastener

Note: Roof edge trim must be installed prior to panel installation.  
Panel should be snug with the roof edge.



### Exposed Fastener

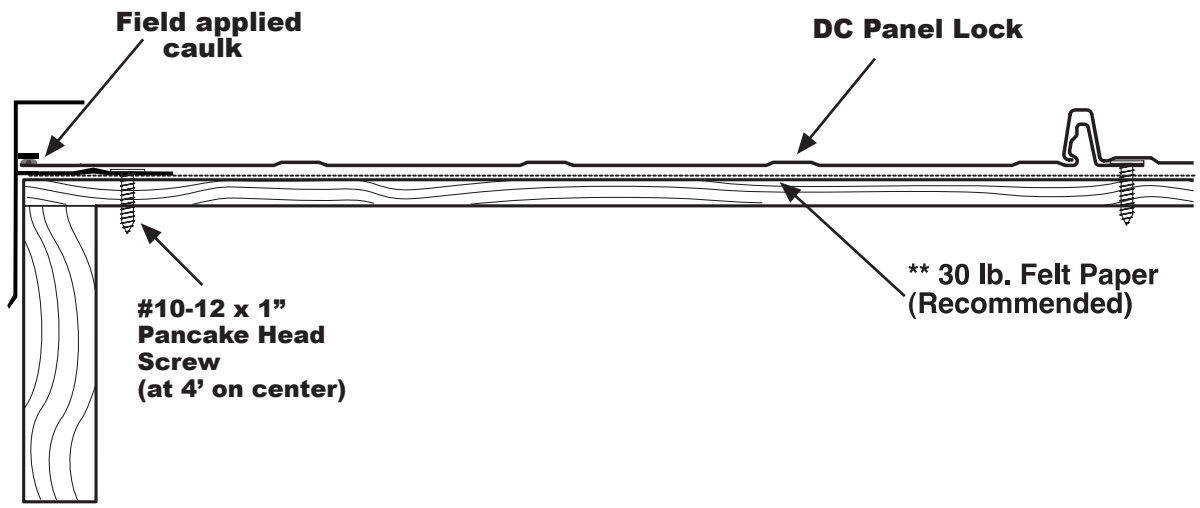
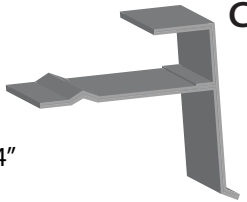
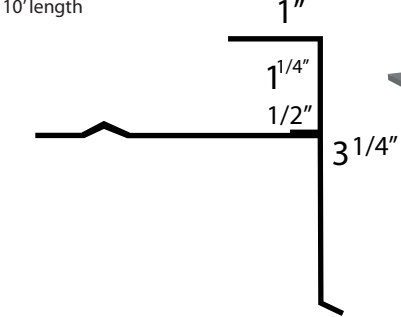
Note: Roof edge trim must be installed prior to panel installation.  
Panel should overhang the eave 1 1/2 " minimum



### Hidden Fastener

Note: Rake trim must be installed prior to panel installation.  
 Rake trim must be flush with roof edge trim.  
 Caulk must be applied after panel installation

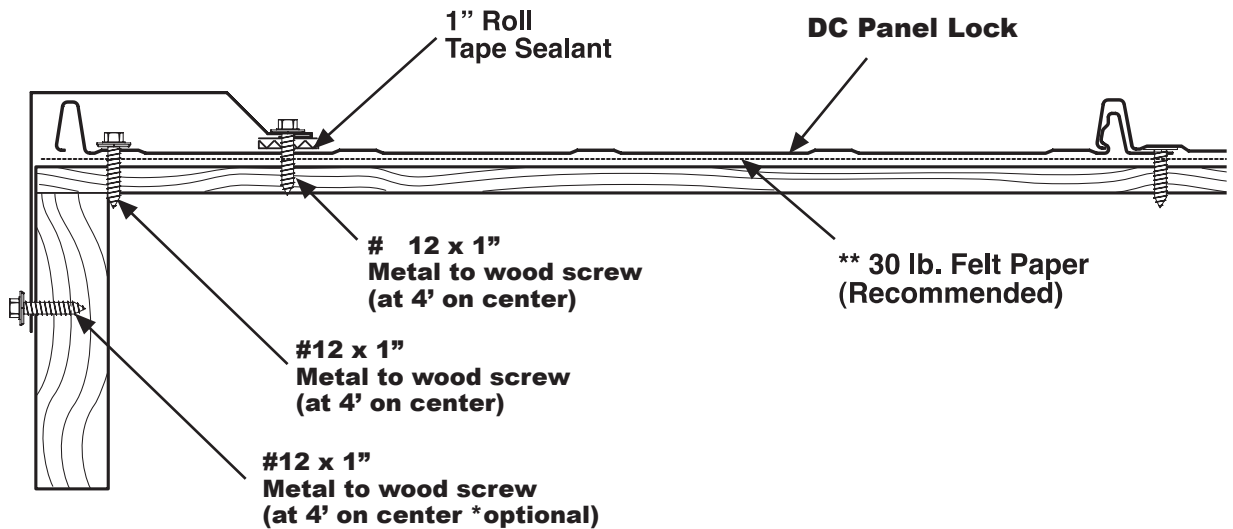
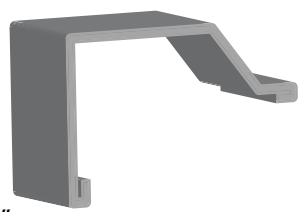
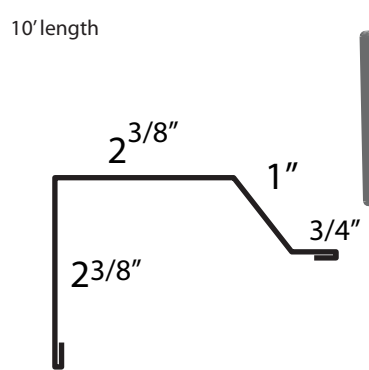
### Panel Lock Rake



### Exposed Fastener

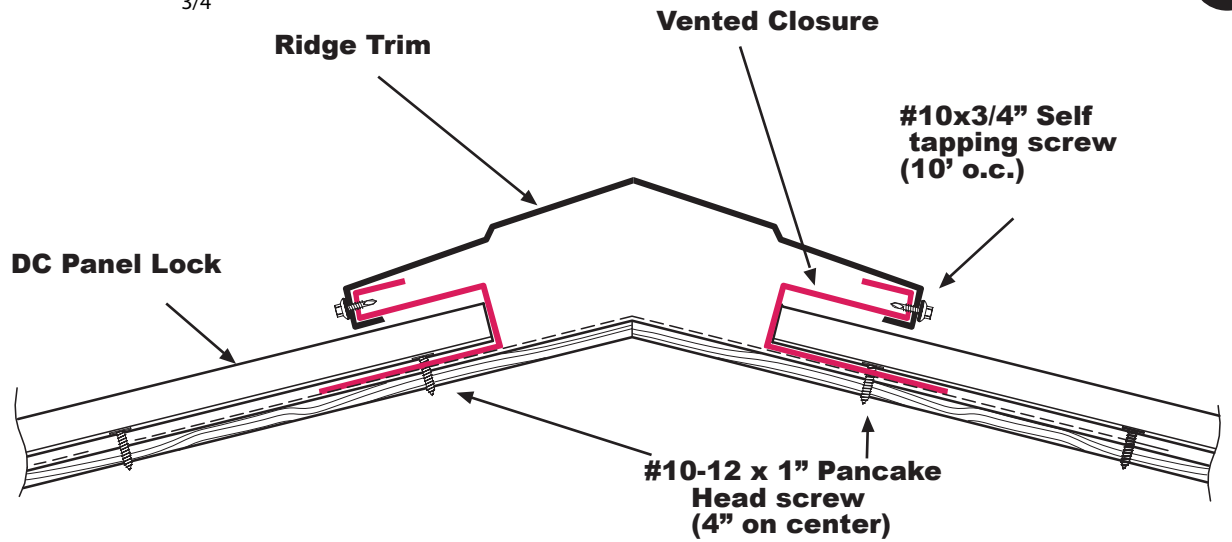
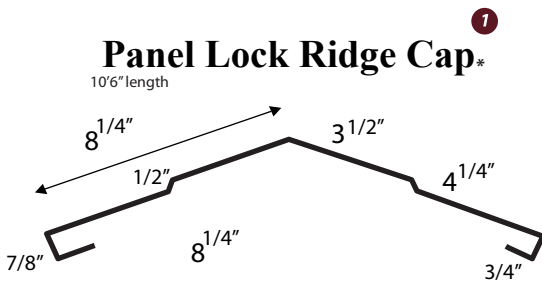
Note: DC Panel Lock must be installed prior to installing Residential Rake trim. Tape sealant must be used for best results.

### Residential Rake



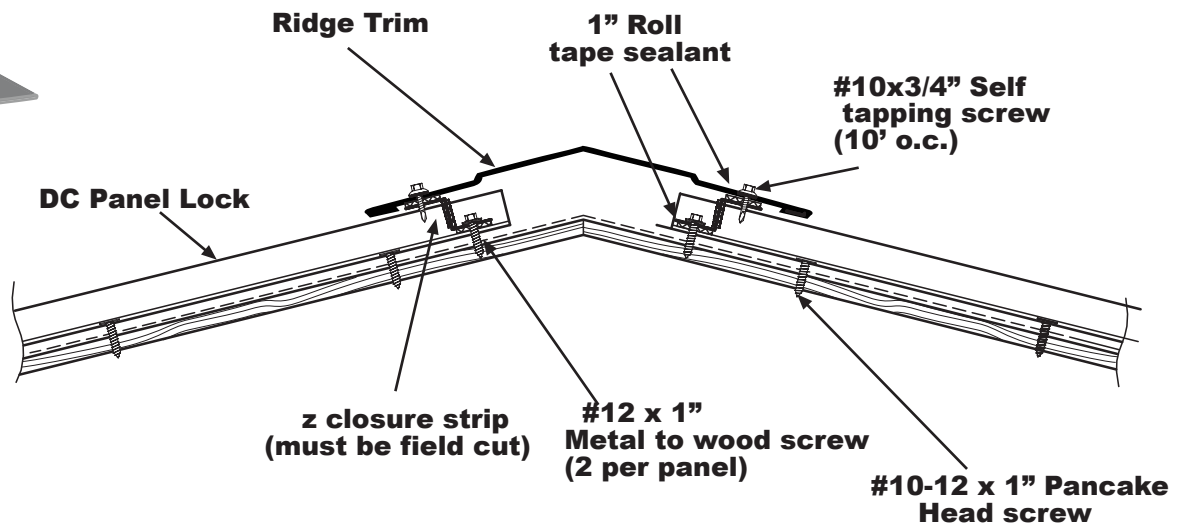
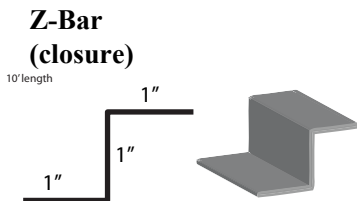
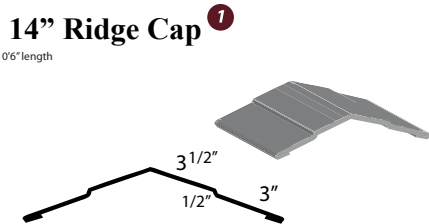
## Hidden Fastener

Note: Rake trim must be installed prior to installing the ridge.  
 Metal panel edge must be turned up (see page 9 step 1-4)  
 (For spacing from peak see page 8 Fig B)



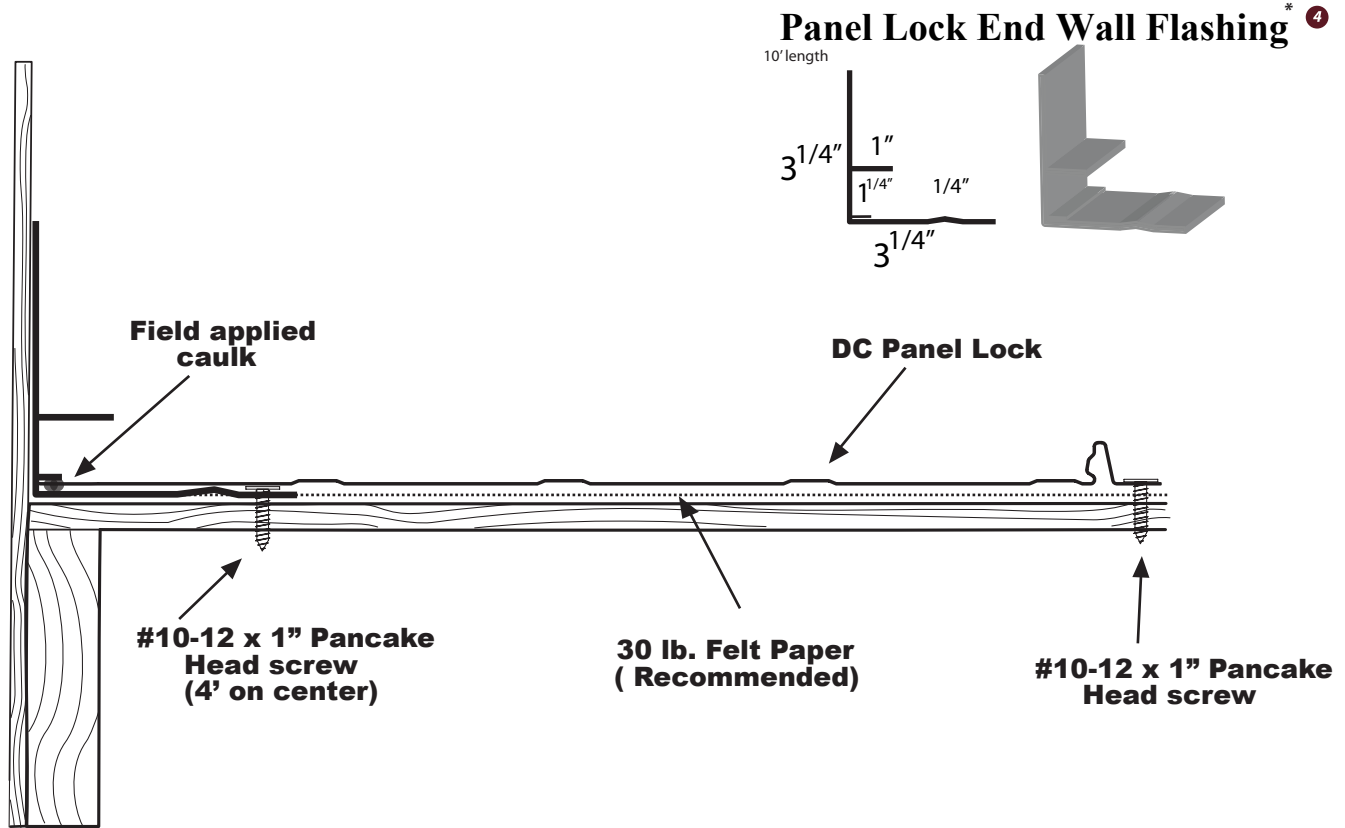
## Exposed Fastener

Note: Rake trim must be installed prior to installing the ridge.  
 Z-Bar Closure strip must be field cut.  
 Tape sealant on panel must be continuous.



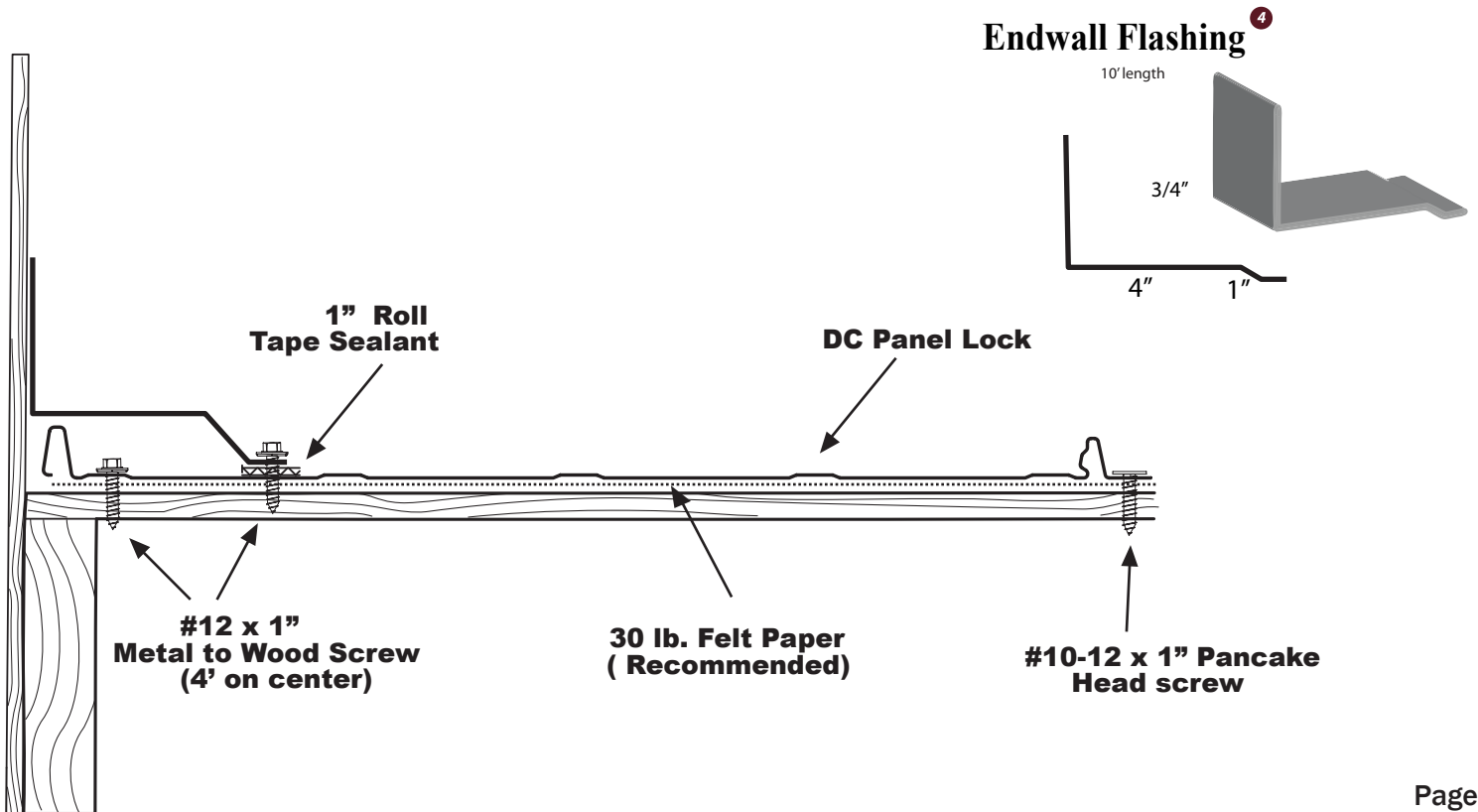
## Hidden Fastener

Note: End Wall Flashing Trim must be installed prior to metal panel.  
Caulk must be applied after metal panel installation.



## Exposed Fastener

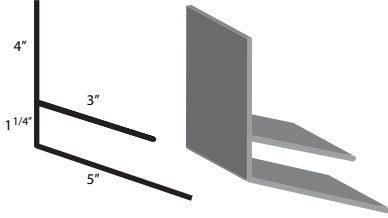
Note: End Wall Flashing Trim must be installed after metal panel.  
Tape sealant must be used to ensure a water tight barrier.



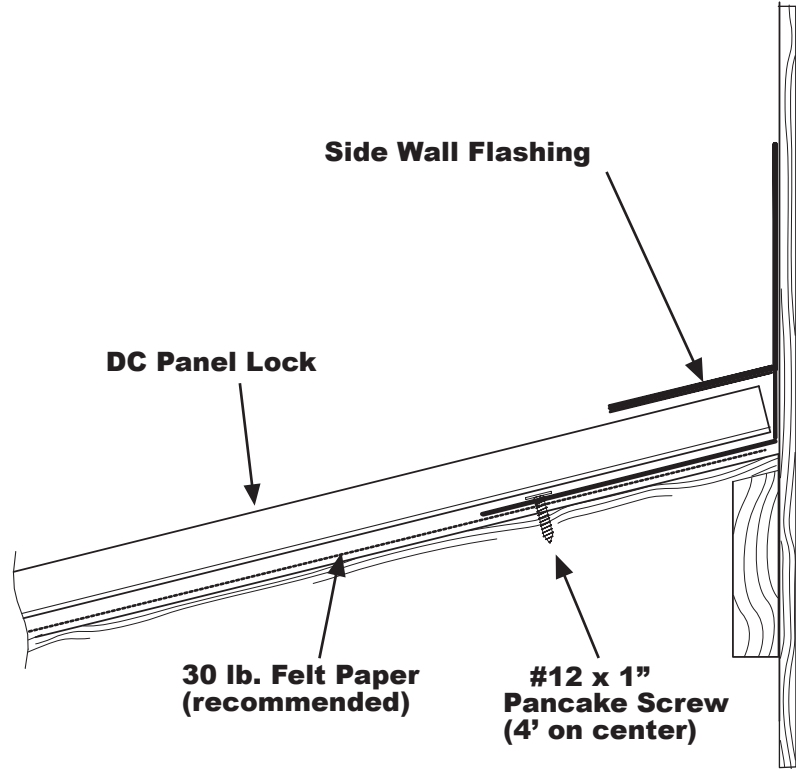
# Hidden Fastener

## Panel Lock Side Wall Flashing <sup>6</sup>

10' length (pitch must be specified when ordering)



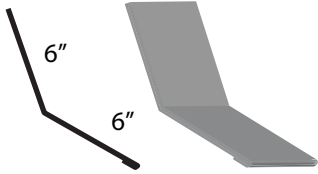
Note: Sidewall flashing must be installed prior to installing metal panel. Panel edge must be folded up to ensure a water tight seal. (see page 9 step 1-4)



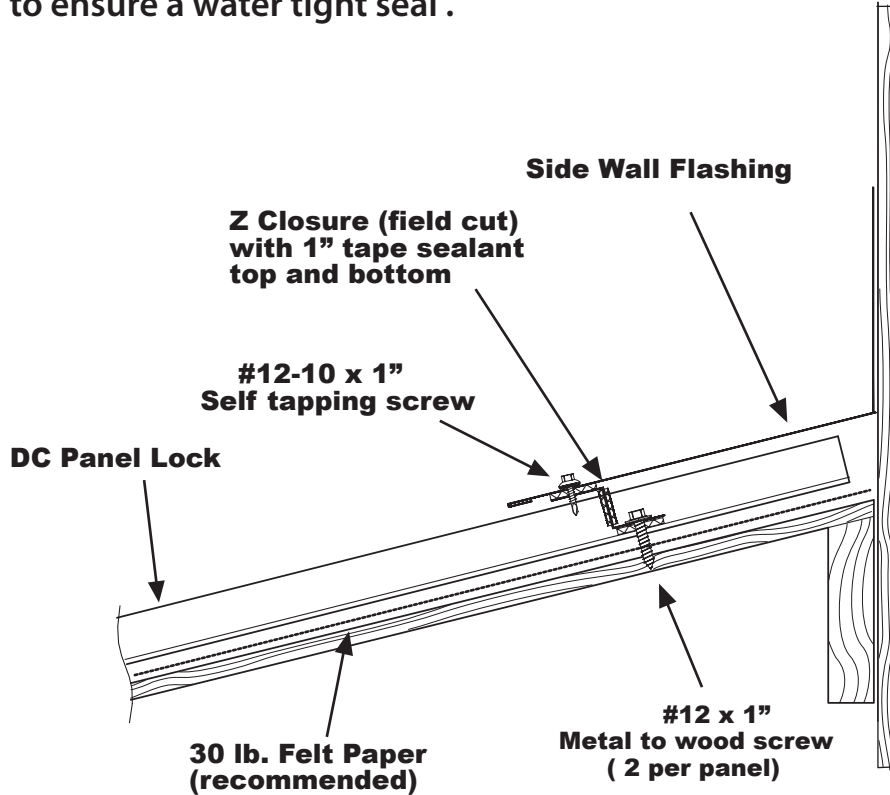
# Exposed Fastener

## DC Sidewall Flashing (Transition Flashing) <sup>6</sup>

10' length (pitch must be specified when ordering)



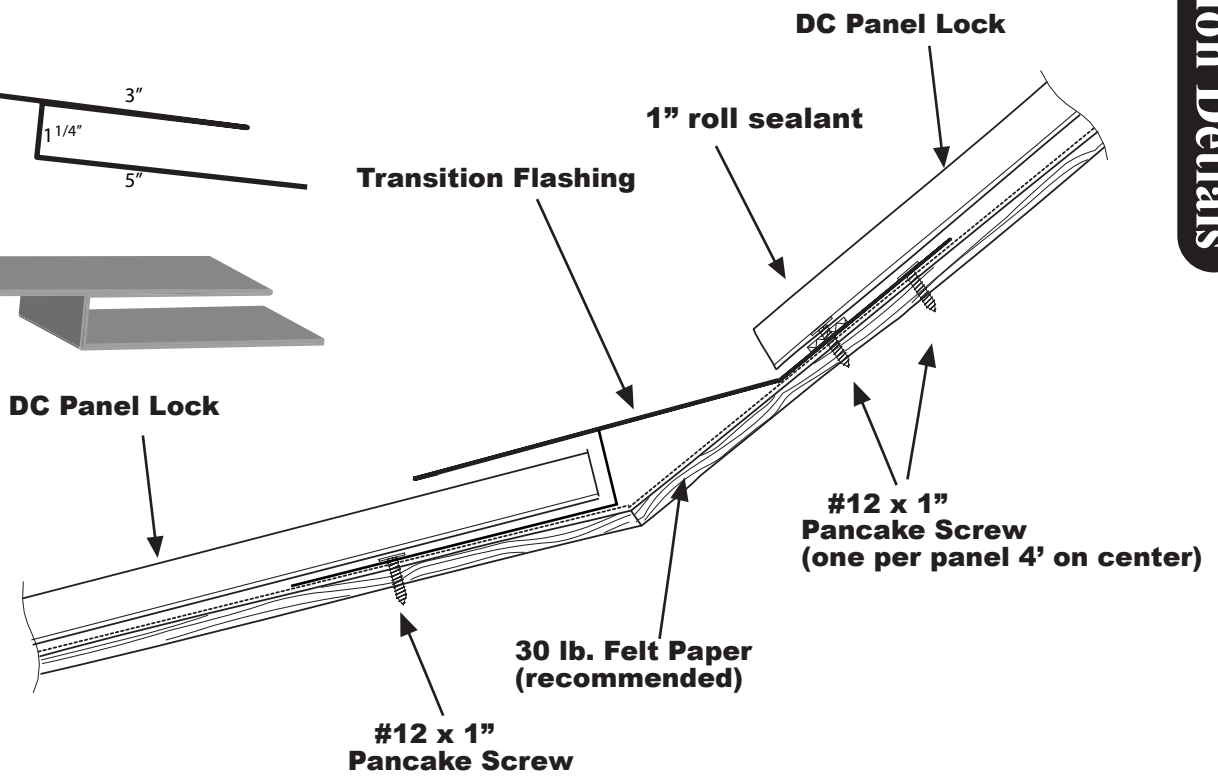
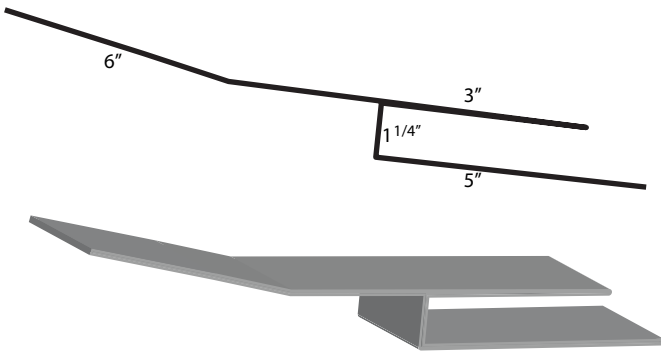
Note: Sidewall flashing must be installed after metal panel Z bar closure must be field cut. Tape sealant must be used to ensure a water tight seal.



## Hidden Fastener

Note: Transition trim must be installed prior to installing metal panel, panel edge must be folded up.

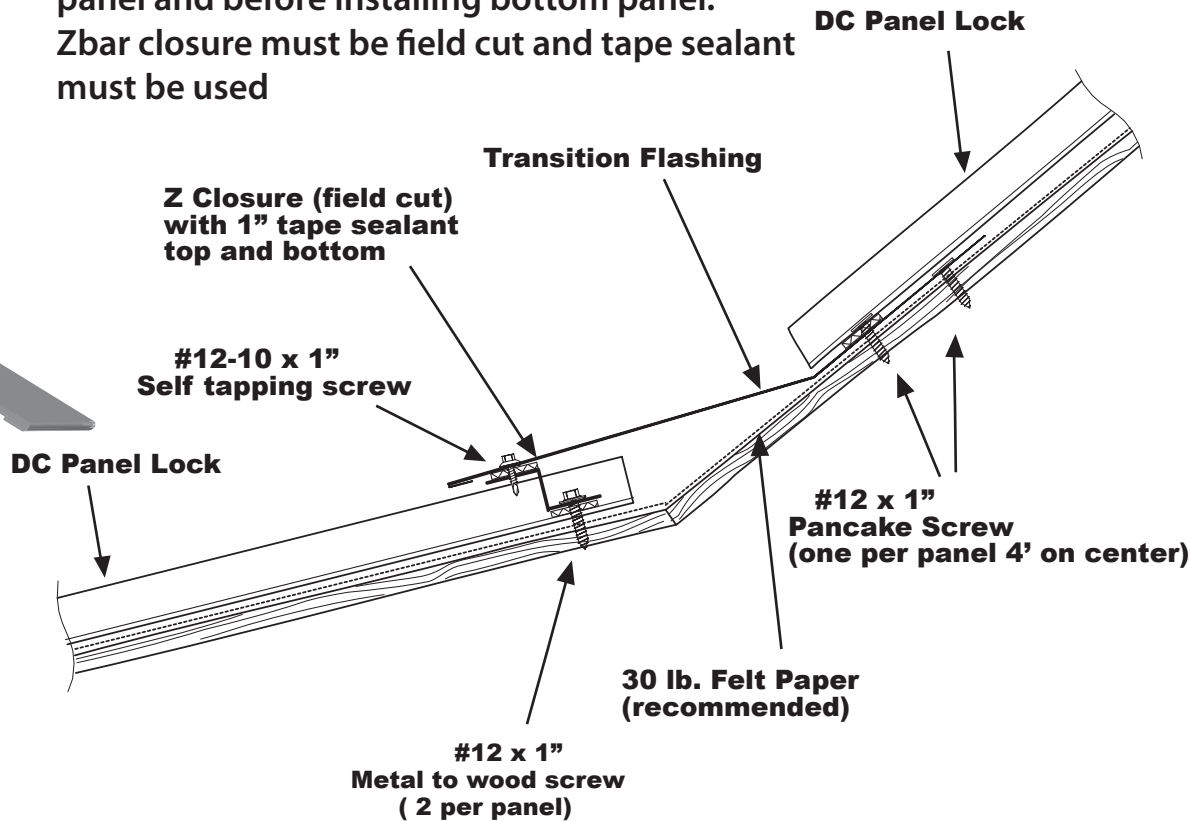
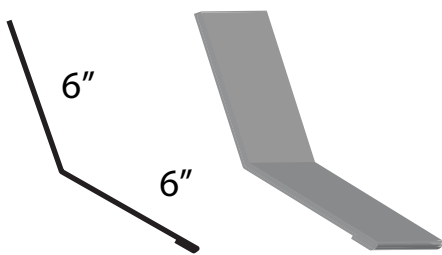
**DC Panel Lock** <sup>5</sup>  
**Transition Flashing**  
 10' length (pitch must be specified)



## Exposed Fastener

Note: Transition trim must be installed prior to installing top panel and before installing bottom panel. Zbar closure must be field cut and tape sealant must be used

**DC Panel Lock** <sup>5</sup> <sup>6</sup>  
**Transition Flashing**  
 10' length (pitch must be specified)

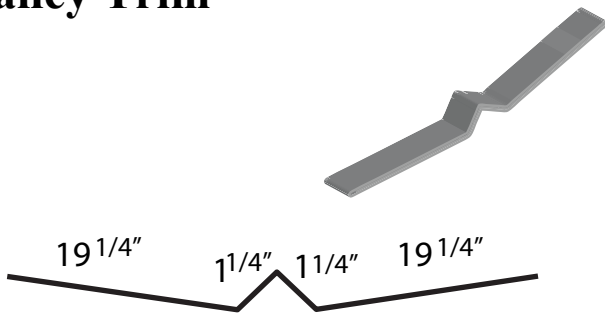




# Valley Trim

10' length

2



Note: Roof edge trim must be installed prior to the valley trim. Install valley trim prior to all metal panels. Start at eave end and work to ridge end, If two or more valley flashings are required a minimum of 6" lap is required. A bead of sealant is required at all trim laps. When installing the panels the bot must be mitered to fit the valley. See Fig A and Fig B

(Optional)

if an offset cleat is required. the bottom edge on valley edge must be hemmed to create a hook.

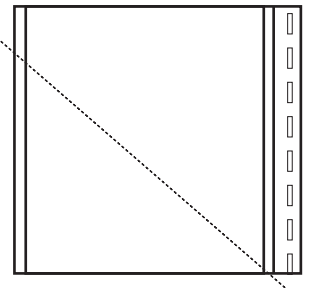
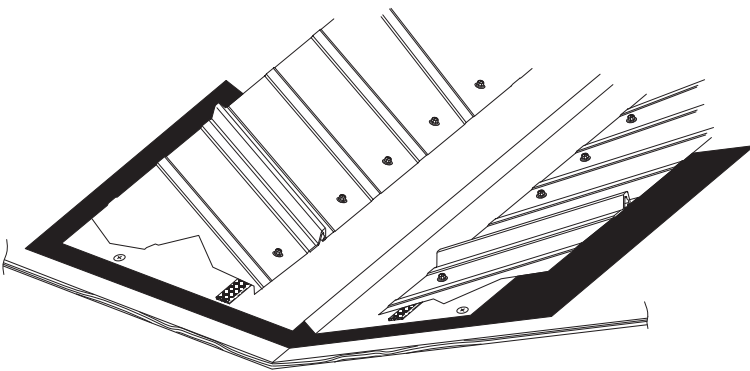


Fig. A

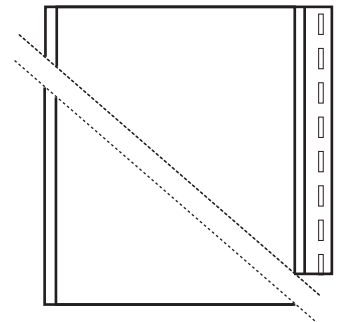
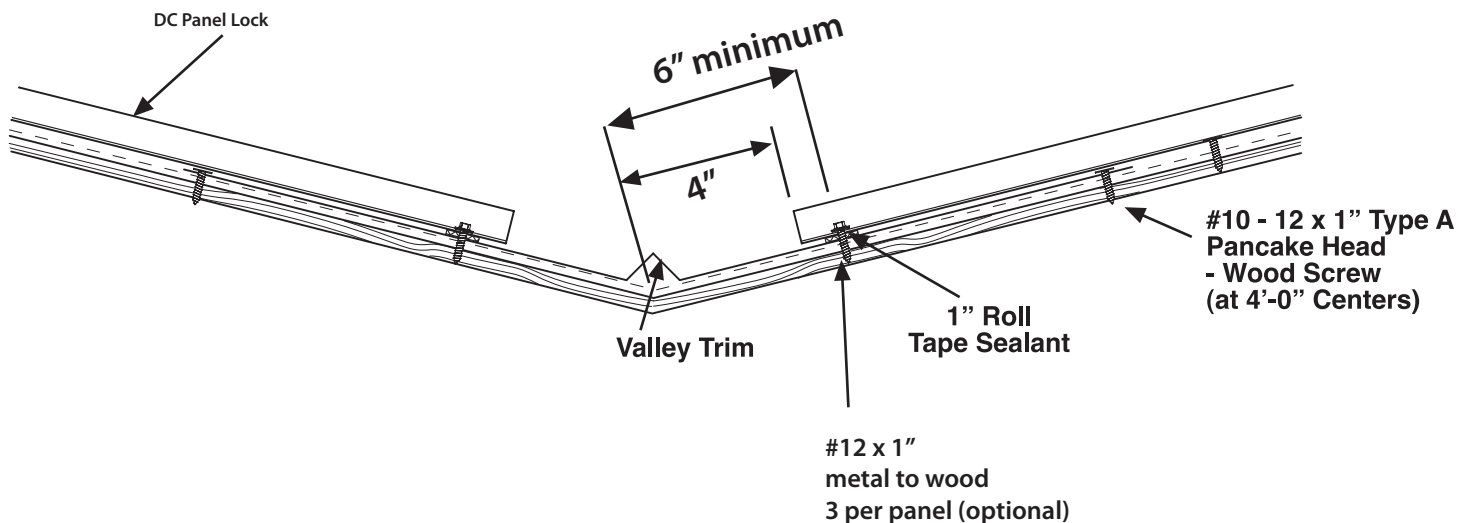


Fig. B

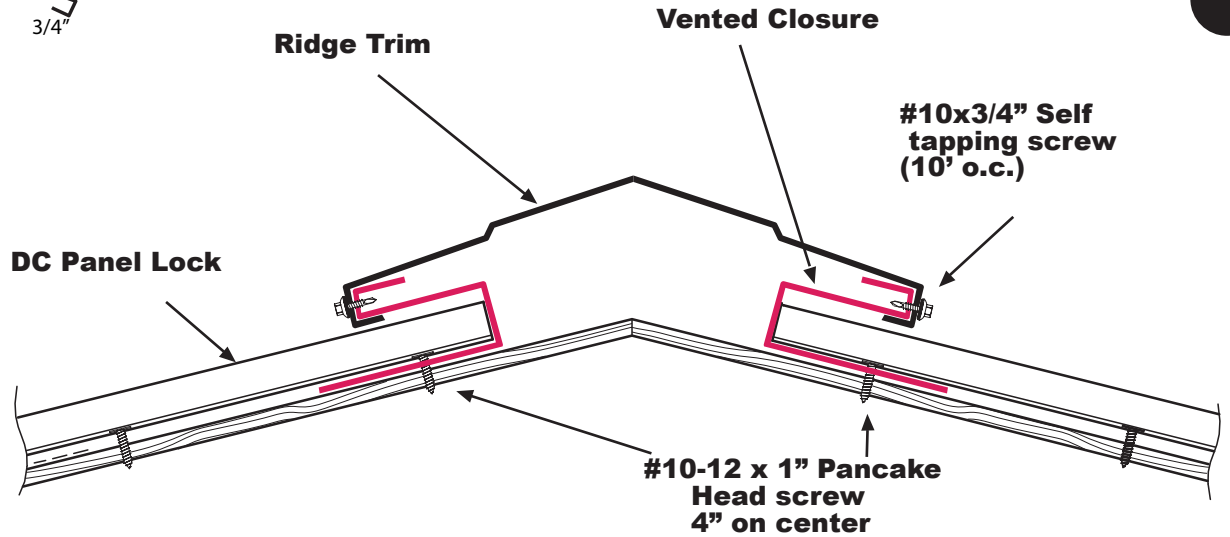
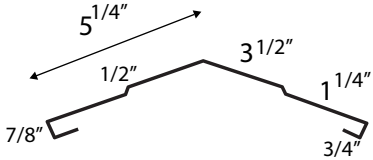


**Hidden Fastener**

Note: Rake trim must be installed prior to installing the ridge.  
Metal panel edge must be turned up (see page 9 step 1-4)

**Panel Lock Hip Ridge**

10'6" length

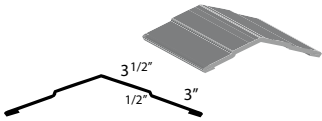


**Exposed Fastener**

Note: Rake trim must be installed prior to installing the ridge.  
Z-Bar Closure strip must be field cut.  
Butyl tape on panel must be continuous

**14" Ridge Cap**

10'6" length



**Z-Bar (closure)**

10' length

