

SHOP DRAWING SUBMITTAL

INSTALLATION SUPPORT PACKAGE 8 1/2" x 11" spiral bound attachment

- (SC) Panel System Components Tab
- (PS) Panel System Installation Support Tab
- (RA) Roof Application Support Tab
- (FT) Field Transition Support Tab

ARCHITECTURAL REVIEW

CUSTOM ENGINEERED 11" X 17" SHOP DRAWINGS DEVELOPED SPECIFICALLY FOR THIS PROJECT'S **DESIGN CONCEPT & REVIEW**

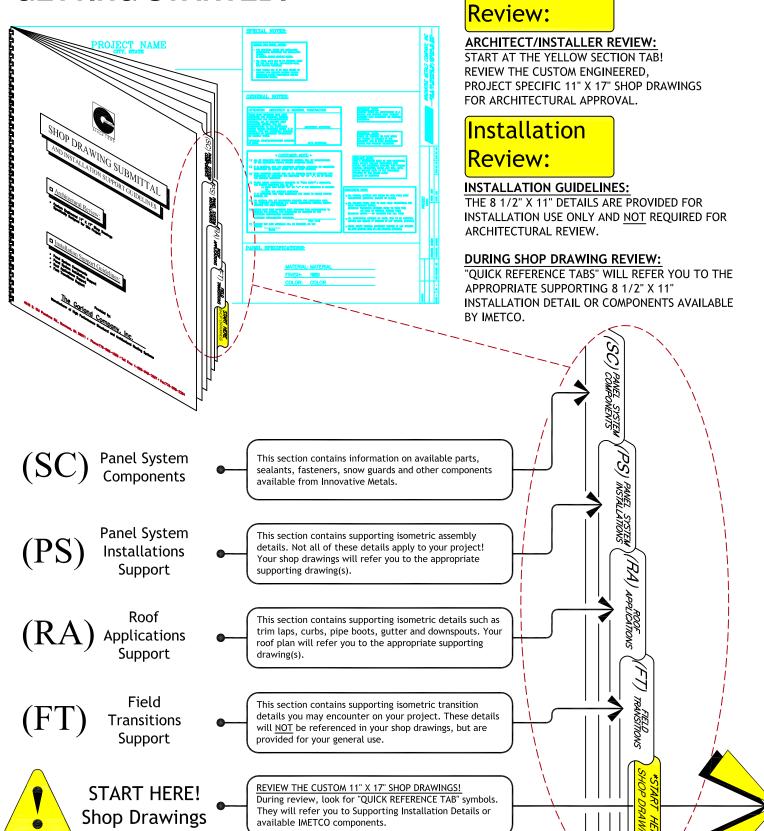
START AT THE YELLOW SECTION TAB •

Provided by:

The Garland Company, Inc.Manufacturer of High Performance Roofing and Building Envelope Solutions



GETTING STARTED!



Architectural





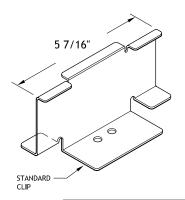
PANEL SYSTEM COMPONENTS



The following series of details is provided as a supplement to the 11" x 17" shop drawings. **ALWAYS start with your shop drawings!** They will govern specific component assemblies.

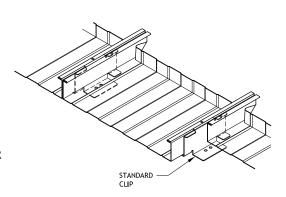
SECTION CONTENTS

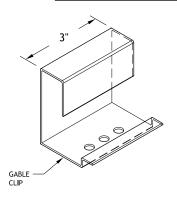
DETAIL:	PAGE NO:
Panel Clips and Bearing Plate	1
Head Closure, Hip Closure and Foam Closures	2
Trim Components, Vent Strip and Hat Channel	3
Sealants, Adhered Snow Guard and Butyl Tape	4
Rivets, Drill Bits and Touch-up Paint	5
Pan-end Tool	6
Hand Crimper Tool	7
Electric Seamer Tool	8
Panel Clip Shims	9



STANDARD PANEL CLIP

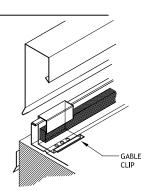
- ONE-PIECE DESIGN ALLOWING UNLIMITED THERMAL MOVEMENT.
- AVAILABLE IN 16 GA. GALVANIZED OR 16 GA. STAINLESS STEEL.
- EXAMPLE @ RIGHT. SEE SHOP DRAWINGS FOR COMPLETE ASSEMBLY REQUIREMENTS.



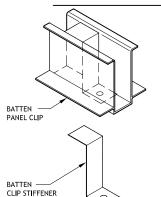


GABLE CLIP

- ◆ ONE-PIECE DESIGN ALLOWING UNLIMITED THERMAL MOVEMENT.
- ◆ ALL GABLE CLIPS ARE INSTALLED 24" o.c. MAX.
- AVAILABLE IN 16 GA. GALVANIZED OR 16 GA. STAINLESS STEEL, OR ALUMINUM.
- EXAMPLE @ RIGHT. SEE SHOP DRAWINGS FOR COMPLETE ASSEMBLY REQUIREMENTS.

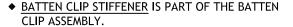


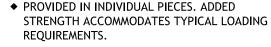




BATTEN CLIP

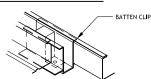
- ◆ <u>BATTEN CLIP</u> IS A ONE-PIECE DESIGN ALLOWING UNLIMITED THERMAL MOVEMENT.
- ◆ AVAILABLE IN 0.090" EXTRUDED ALUMINUM.







PROVIDED IN 10'-0" LENGTHS. INSTALLER CUT TO 6" PIECES. INSTALL MIDWAY BETWEEN CLIPS AS SHOWN @ RIGHT.



PANEL WITH CLIP



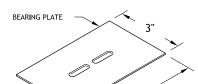
CLIP WITH STIFFENER



CRIMP PANEL STIFFENER TO TOP OF SEAM PRIOR TO INSTALLATION OF SEAM CAP.

BATTEN CLIP

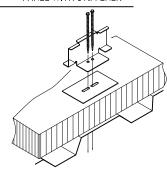




5"

BEARING PLATE

- PROVIDES EVEN LOAD DISTRIBUTION FOR PANEL CLIPS.
- MADE OF 16 GA. STEEL. SLOTTED HOLES PROVIDE USE WITH SERIES 300 PANEL CLIPS.
- EXAMPLE @ RIGHT. SEE SHOP DRAWINGS FOR OTHER APPLICATIONS AND COMPLETE ASSEMBLY REQUIREMENTS.





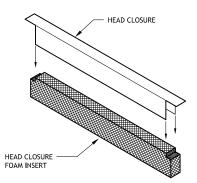
BATTEN

PANEL STIFFENER

THE GARLAND COMPANY, INC.
GARLAND CANADA, INC.
THE GARLAND COMPANY UK, LTD

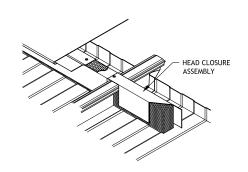
์ 1 7/8"

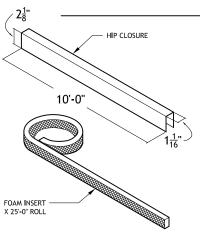
Panel Clips and Bearing Plate (SC) PANEL SYSTEM COMPONENTS



HEAD CLOSURE ASSEMBLY

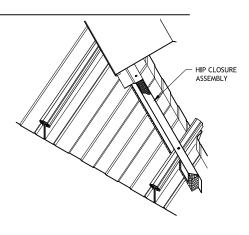
- FACTORY FORMED TO INDIVIDUAL PANEL WIDTHS.
- SOLD BY MANUFACTURER AS AN ASSEMBLY WHICH INCLUDES BOTH COMPONENTS SHOWN.
- EXAMPLE @ RIGHT. SEE SHOP DRAWINGS FOR COMPLETE ASSEMBLY REQUIREMENTS.

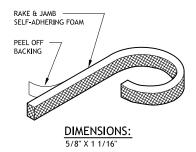




HIP CLOSURE ASSEMBLY

- ◆ PROVIDED IN 10'-0" LENGTHS. INSTALLER TO NOTCH IN FIELD TO FIT SKEWED PANEL PROFILE.
- ► NEOPRENE INSERT IS PROVIDED IN 25'-0" ROLLS. INSTALLER TO NOTCH IN FIELD TO FIT SKEWED PANEL PROFILE.
- ◆ EXAMPLE @ RIGHT. SEE SHOP DRAWINGS FOR COMPLETE ASSEMBLY REQUIREMENTS.

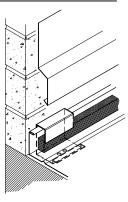


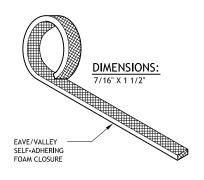


SELF-ADHERING FOAM CLOSURE

- PROVIDES ADDITIONAL PROTECTION AGAINST WATER INFILTRATION.
- ◆ SOLD BY MANUFACTURER IN ROLLS OF 50'-0".
- EXAMPLE @ RIGHT. SEE SHOP DRAWINGS FOR OTHER LOCATIONS AND COMPLETE ASSEMBLY REQUIREMENTS.

ROLLS IDENTIFIED WITH A GREEN TAPE

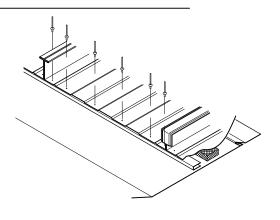




FOAM CLOSURE

- PROVIDES ADDITIONAL PROTECTION AGAINST WATER INFILTRATION. USE WITH BUTYL SEALANT.
- ◆ SOLD BY MANUFACTURER IN ROLLS OF 50'-0".
- EXAMPLE @ RIGHT. SEE SHOP DRAWINGS FOR OTHER LOCATIONS AND COMPLETE ASSEMBLY REQUIREMENTS.

ROLLS IDENTIFIED WITH A RED TAPE





THE GARLAND COMPANY, INC.
GARLAND CANADA, INC.
THE GARLAND COMPANY UK, LTD

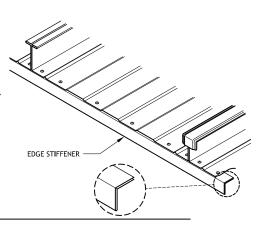
Head Closure, Hip Closure, Rake/Jamb Closure & Eave/Valley Closure (SC) PANEL SYSTEM COMPONENTS

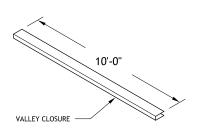
pg. 2

10'-0" EDGE STIFFENER

EDGE STIFFENER

- ◆ FORMED TO 1" x 1" DIMENSION.
- ◆ DOUBLE MATERIAL THICKNESS TRIM COMPONENT.
- ◆ SOLD BY MANUFACTURER IN 10'-0" LENGTHS.
- ◆ EXAMPLE @ RIGHT. SEE SHOP DRAWINGS FOR COMPLETE ASSEMBLY REQUIREMENTS.

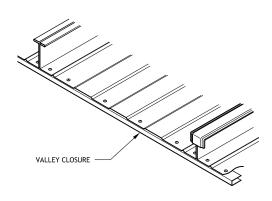


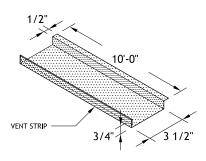


VALLEY CLOSURE

- ◆ U-SHAPED TRIM COMPONENT (13/16" x 3/8" x 13/16").
- ◆ SOLD BY MANUFACTURER IN 10'-0" LENGTHS.
- EXAMPLE @ RIGHT. SEE SHOP DRAWINGS FOR OTHER LOCATIONS AND COMPLETE ASSEMBLY REQUIREMENTS.

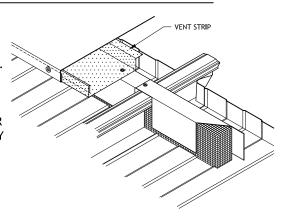
NOTE: EASIER TO INSTALL SIMULTANEOUSLY WITH PANEL INSTALLATION

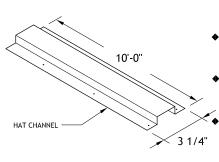




VENT STRIP

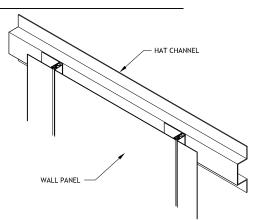
- ◆ PERFORATED, STAINLESS STEEL COMPONENT.
- ◆ SOLD BY MANUFACTURER IN 10'-0" LENGTHS.
- ◆ EXAMPLE @ RIGHT. SEE SHOP DRAWINGS FOR OTHER LOCATIONS AND COMPLETE ASSEMBLY REQUIREMENTS.





HAT CHANNEL

- ◆ 3/4", 1", & 1 1/2" HIGH COMPONENTS SOLD IN 10'-0" LENGTHS.
- ◆ MADE OF 22 GAUGE STEEL WITH PRE-PUNCHED HOLES @ 6" o.c.
- ► EXAMPLE @ RIGHT. SEE SHOP DRAWINGS FOR OTHER APPLICATIONS AND COMPLETE ASSEMBLY REQUIREMENTS.





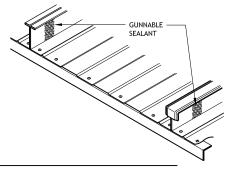
THE GARLAND COMPANY, INC.
GARLAND CANADA, INC.
THE GARLAND COMPANY UK, LTD

Trim Components,
Vent Strip & Hat Channel
(SC) PANEL SYSTEM COMPONENTS



ACRYLIC SEALANT

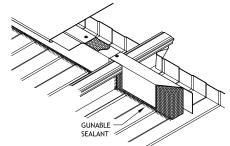
- NON-CURING ACRYLIC SEALANT IS INTENDED TO BE APPLIED AS REQUIRED TO 'NON-EXPOSED' CONDITIONS.
- ◆ EXAMPLE @ RIGHT. SEE SHOP DRAWINGS FOR OTHER LOCATIONS AND COMPLETE ASSEMBLY REQUIREMENTS.





TRIPOLYMER SEALANT

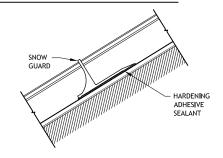
- ◆ INTENDED TO BE APPLIED AS REQUIRED TO 'EXPOSED' CONDITIONS.
- ◆ SEALANT BY IMETCO IS CLEAR.
- ◆ EXAMPLE @ RIGHT. SEE SHOP DRAWINGS FOR OTHER LOCATIONS AND COMPLETE ASSEMBLY REQUIREMENTS.

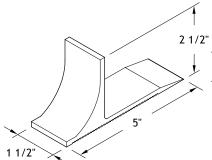




ADHESIVE/BONDING SEALANT

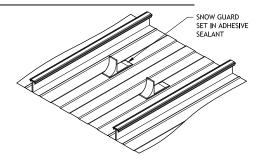
- INTENDED TO BE USED FOR THE ATTACHMENT OF SNOW GUARDS.
- ◆ SEALANT BY IMETCO IS CLEAR, TOUCH-UP PAINT AS REQUIRED.

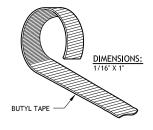




SNOW GUARD

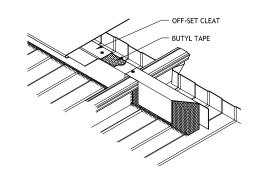
- EXTRUDED ALUMINUM ONE-PIECE COMPONENT.
- LAYOUT PATTERNS ARE PROJECT SPECIFIC AND WILL BE ILLUSTRATED IN THE SHOP DRAWINGS IF SPECIFIED.





BUTYL TAPE

- ♦ NON-CURING BUTYL SEALANT TAPE IS APPLIED AS REQUIRED TO 'NON-EXPOSED' CONDITIONS.
- TAPE IS SUPPLIED IN ROLLS OF
- ◆ 45'-0" PER BOX (16 ROLLS PER CASE)
- EXAMPLE @ RIGHT. SEE SHOP DRAWINGS FOR OTHER LOCATIONS AND COMPLETE ASSEMBLY REQUIREMENTS.





THE GARLAND COMPANY, INC. GARLAND CANADA, INC. THE GARLAND COMPANY UK, LTD

Sealants, Snow Guards & Butyl Tape (SC) PANEL SYSTEM COMPONENTS



1/8" **DRILL BITS** (6 per pk.)

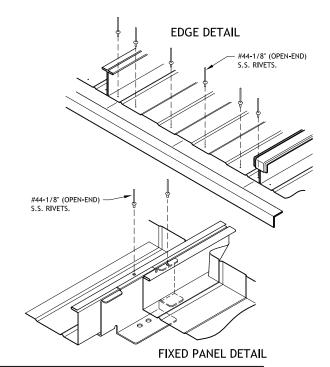
#44-1/8" STAINLESS STEEL (OPEN-END) RIVETS

◆ PRE-PAINTED TO MATCH ROOF PANELS. (EXAMPLE: ATTACHMENT OF PANEL EDGE STIFFENER, FIXING PANEL TO CLIP AND ATTACHING CLOSURE TO PANEL)

#44-1/8" STAINLESS STEEL (CLOSED-END) RIVETS

◆ MILL FINISH AND WATERTIGHT. (EXAMPLE: GUTTER LAP, TRIM LAP, LONGITUDAL PANEL SPLICE.)

EXAMPLES @ RIGHT. SEE SHOP DRAWINGS FOR OTHER LOCATIONS AND COMPLETE ASSEMBLY REQUIREMENTS.





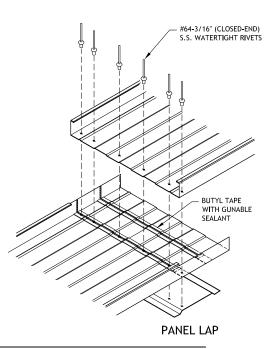




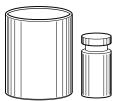
#64-3/16" STAINLESS STEEL (CLOSED-END) RIVETS

- ◆ MILL FINISH AND WATERTIGHT. (EXAMPLE: PANEL LAP ASSEMBLY)
- ◆ RIVETS ARE SUPPLIED MILL FINISH. APPLY TOUCH-UP PAINT TO MATCH AS REQUIRED.

EXAMPLE @ RIGHT. SEE SHOP DRAWINGS FOR OTHER LOCATIONS AND COMPLETE ASSEMBLY REQUIREMENTS.



TOUCH-UP PAINT



- 1 QUART
- 2 OUNCE W' BRUSH

IMPORTANT NOTE:

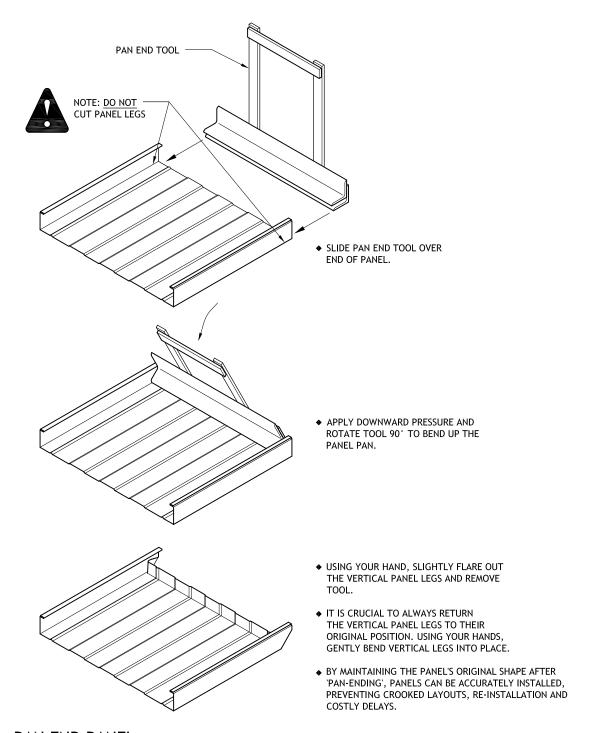
- ALWAYS USE RIVETS WITH STAINLESS STEEL BODIES AND MANDRELS. RIVETS SHOULD BE COLORED TO MATCH WHERE REQUIRED.
- ◆ REFERENCE IMETCO'S SHOP DRAWINGS FOR SPECIFIC LOCATIONS AND TYPE OF RIVETS AND/OR OTHER FASTENERS TO USE.
- CONTACT YOUR LOCAL SALES REPRESENTATIVE TO ORDER YOUR PANEL SYSTEM COMPONENTS.



THE GARLAND COMPANY, INC. GARLAND CANADA, INC. THE GARLAND COMPANY UK, LTD

Rivets, Drill Bits & Touch-up Paint (SC) PANEL SYSTEM COMPONENTS

pg. 5



PAN END PANEL

- ◆ STRENGTHENS PANEL EDGE TO WITHSTAND INCREASED PERIMETER UPLIFT PRESSURES AT TOP OF PANEL.
- ◆ PROVIDES BACK-UP PROTECTION AGAINST WATER INFILTRATION.
- ◆ PAN END TOOL IS MADE TO FIT EACH PANEL WIDTH AND IS SOLD BY GARLAND.
- ◆ ORDER AS REQUIRED.



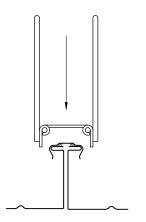
THE GARLAND COMPANY, INC.

GARLAND CANADA, INC.

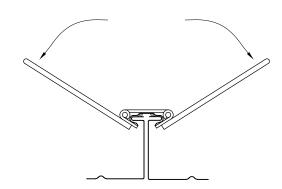
THE GARLAND COMPANY UK, LTD

Pan End Tool

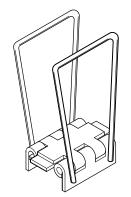
(SC) PANEL SYSTEM COMPONENTS



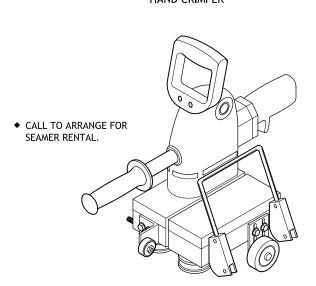
◆ PLACE HAND CRIMPER IN OPENED POSITION ON INSTALLED SEAM CAP.



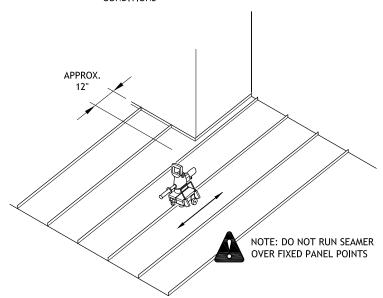
- ◆ PUSH HANDLES APART TO CRIMP CAP.
- ♦ HAND CRIMP SEAM CAP AT 5'-0" o.c. ALONG LENGTH OF SEAM TO HOLD CAP IN PLACE FOR THE ELECTRIC SEAMER.
- ◆ HAND CRIMP ALL FIXED PANEL CONDITIONS



HAND CRIMPER



ELECTRIC SEAMER



USING ELECTRIC SEAMER

- ◆ USE HAND CRIMPER TO CRIMP CLOSED APPROXIMATELY 12" OF PANEL CAP TO ALLOW SEAMER TO BE CLAMPED INTO PLACE TO BEGIN RUNNING.
- RUN ELECTRIC SEAMER UP OR DOWN SEAMS TO CLOSE CAP AROUND PANEL EDGES.
- ◆ USE HAND CRIMPER TO CLOSE SEAMS WHERE ELECTRIC SEAMER CANNOT REACH.

 (APPROX. 12" FROM VERTICAL SURFACES.)



ALWAYS PUT THE SAFETY OF YOUR WORKERS FIRST. KEEP HANDS AND FINGERS CLEAR FROM SEAMER FORMING ROLLERS. READ ALL OPERATING INSTRUCTIONS PRIOR TO USE.

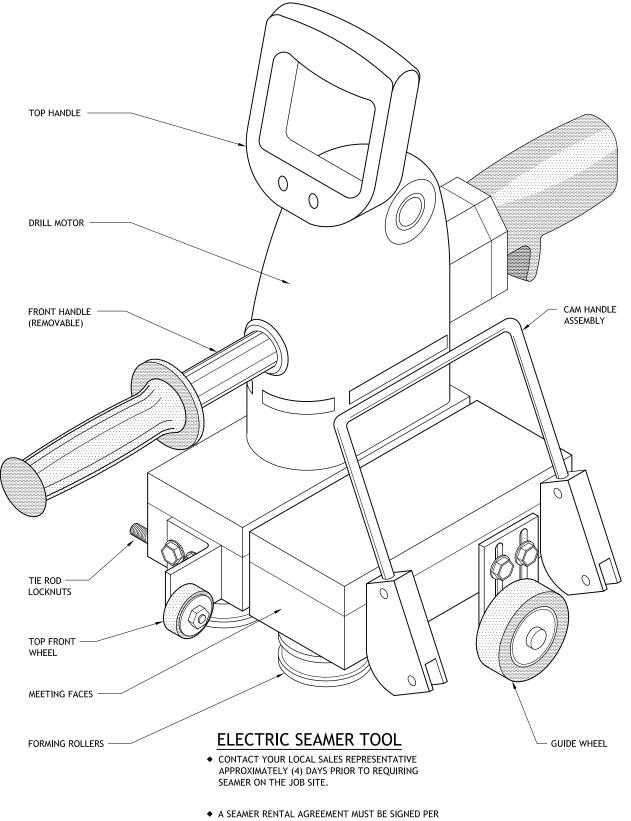
DO NOT LET SEAMER RUN OFF ROOF TO AVOID COSTLY REPAIRS OR INJURIES TO WORKERS.

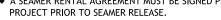


◆ ORDER AS REQUIRED.

THE GARLAND COMPANY, INC.
GARLAND CANADA, INC.
THE GARLAND COMPANY UK, LTD

Hand Crimping Tool & Electric Seamer (SC) PANEL SYSTEM COMPONENTS





ullet CALL TO ARRANGE FOR SEAMER RENTAL.



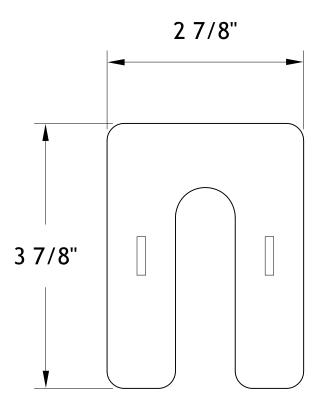
THE GARLAND COMPANY, INC.

GARLAND CANADA, INC.

THE GARLAND COMPANY UK, LTD

Electric Seamer

(SC) PANEL SYSTEM COMPONENTS



SIZES AVAILABLE

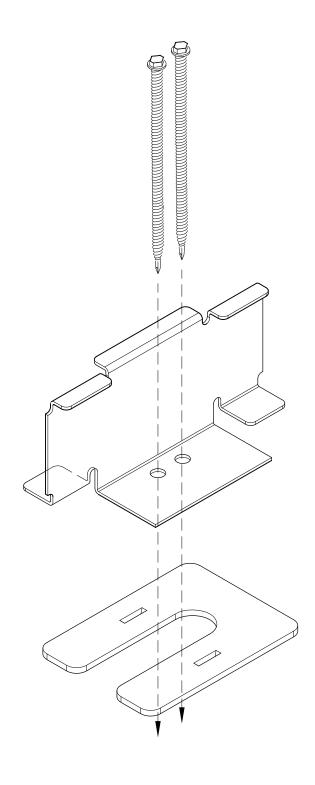
*SHIMS ARE COLOR CODED BASED ON SHIM THICKNESS

BLUE = 1/16" (1000 pcs / case) RED = 1/8" (500 pcs / case) BLACK = 1/4" (400 pcs / case)

SHIMS ARE DESIGNED FOR USE WITH UNEVEN ROOF DECKS. THE SHIM'S UNIQUE INTERLOCKING DESIGN ALLOWS FOR EASY STACKING OF SHIMS TO CREATE A WIDE RANGE OF THICKNESS COMBINATIONS.

INSTALLATION INSTRUCTIONS:

- LAY ROOF PANEL IN PLACE ON ROOF DECK.
- POSITION CLIPS ACCORDING TO THE CLIP SPACING DIAGRAM LOCATED ON THE ROOF PLAN OF THE SHOP DRAWINGS.
- CLAMP CLIP TO PANEL LEG.
- PLACE SHIMS UNDER CLIPS AS NEEDED TO MAINTAIN A TRUE AND LEVEL PLANE.





THE GARLAND COMPANY, INC.

GARLAND CANADA, INC.

THE GARLAND COMPANY UK, LTD

Panel Clip Shims

(SC) PANEL SYSTEM COMPONENTS





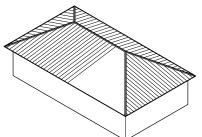
PANEL SYSTEM INSTALLATION SUPPORT



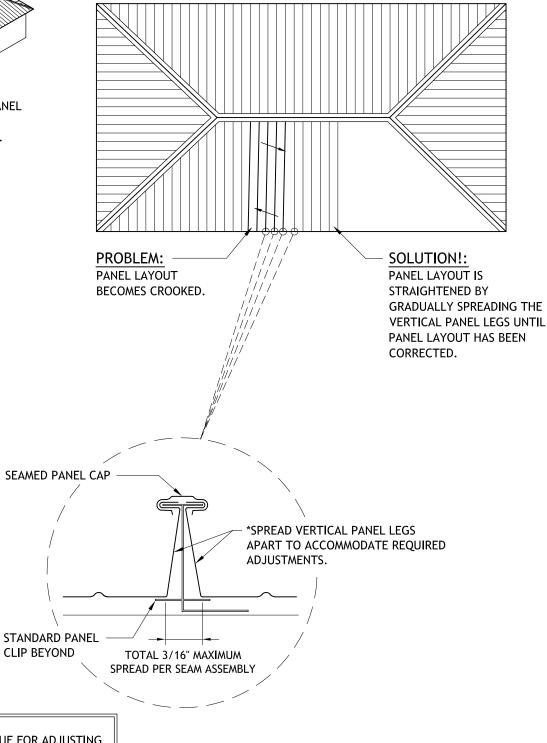
The following series of details is provided as a supplement to the 11" x 17" shop drawings. ALWAYS start with your shop drawings! They will govern specific component assemblies.

SECTION CONTENTS

DETAIL:	PAGE NO:
Panel Adjustment - Vertical Leg Spread	ADJ-1.1
Panel Adjustment - Longitudinal Splice	ADJ-1.2
Panel Adjustment - Bending Panel Pan	ADJ-1.3
Seam Cap Lap Detail - Installation	CL-1.1
Head Assembly - Standard Offset Cleat	HA-1.1
Head Assembly - Vented Hold-down Cleat	HA-1.2
Hip Assembly - Detail 1 of 2	HA-3.1
Hip Assembly - Detail 2 of 2	HA-3.2
Hip Assembly - Deep Skew Z-Profile	HA-3.3
Knee Plate - Fabrication and Installation	K-1.1
Rake Assembly - With Self-adhering Foam Closure	NEO-1.1
Jamb Assembly - With Self-adhering Foam Closure	NEO-1.2
Seam-End Closure - 12", 16" and 18" Panel Widths	SC-1.1
Valley Closure - 12", 16" and 18" Panel Widths	VC-1.1
Snow Guard - Adhesive Installation	SNOW-1.1
Snow Guard - Installation Instructions	SNOW-1.2



TYPICAL ROOF
CONSISTENTLY CHECK PANEL
LAYOUT FOR ACCURATE,
STRAIGHT INSTALLATION.



TAPERED PANELS:

*ALSO A COMMON TECHNIQUE FOR ADJUSTING TAPERED PANELS AS INSTALLED AROUND A RADIUS.



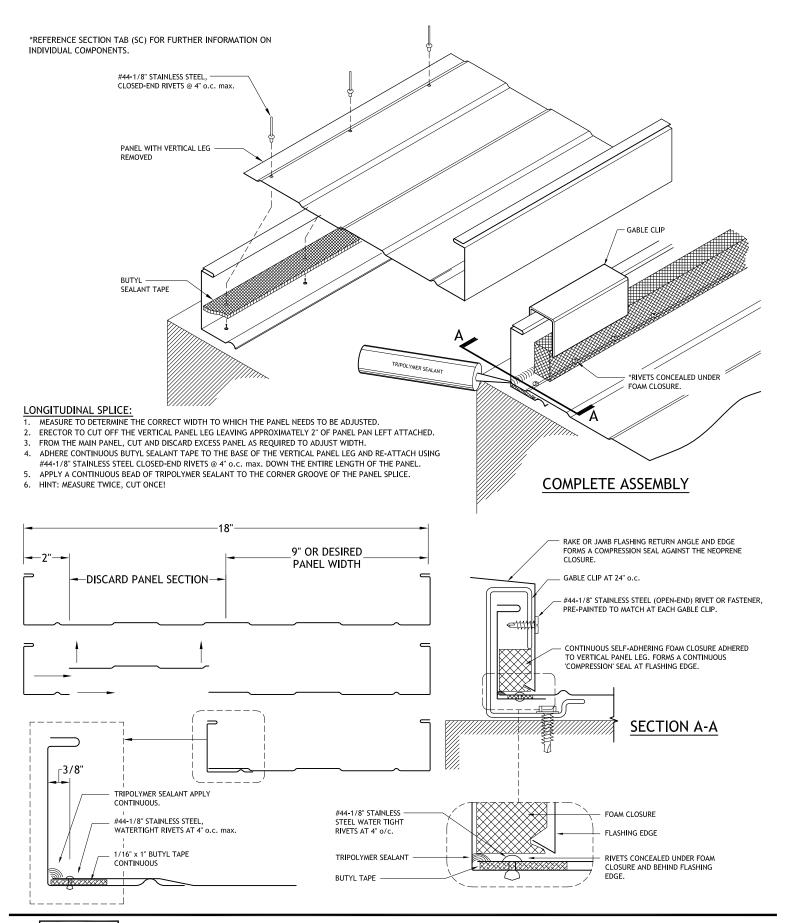
THE GARLAND COMPANY, INC.

GARLAND CANADA, INC.

THE GARLAND COMPANY UK, LTD

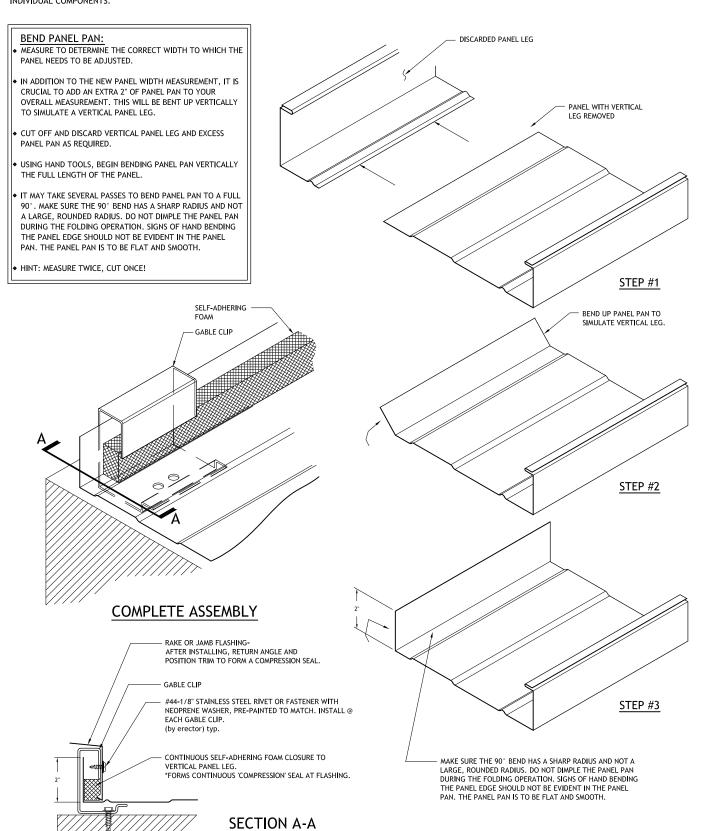
Panel Adjustment Detail
Vertical Leg Spread
(PS) PANEL SYSTEM ASSEMBLIES

pg. ADJ-1.1



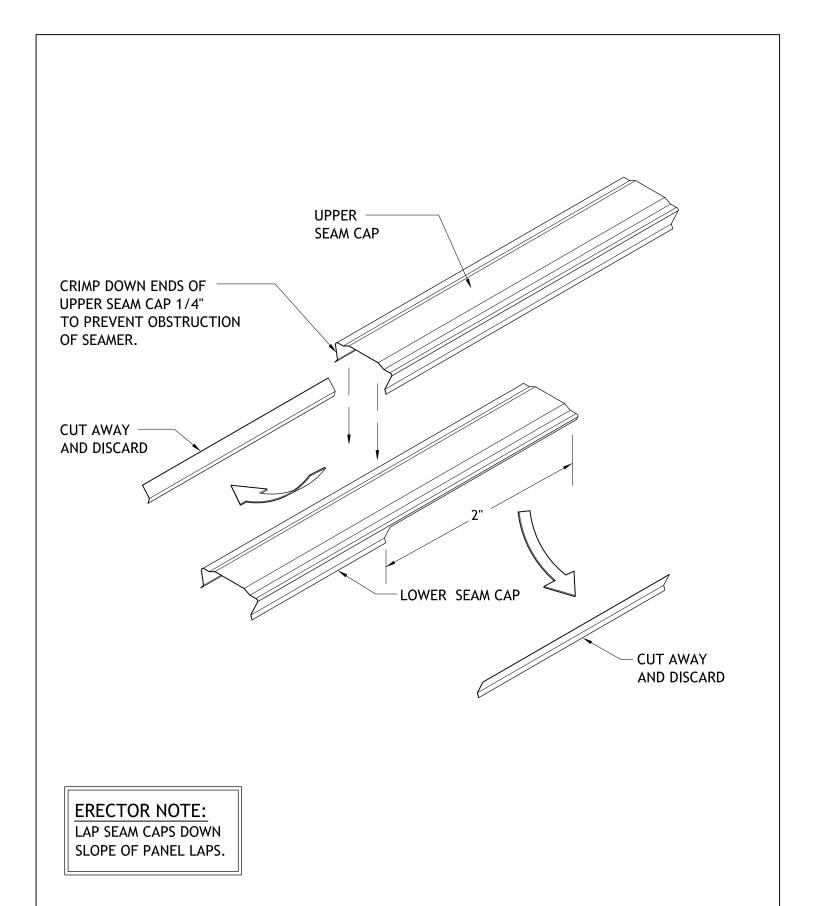


Panel Adjustment Detail
Longitudinal Splice
(PS) PANEL SYSTEM ASSEMBLIES



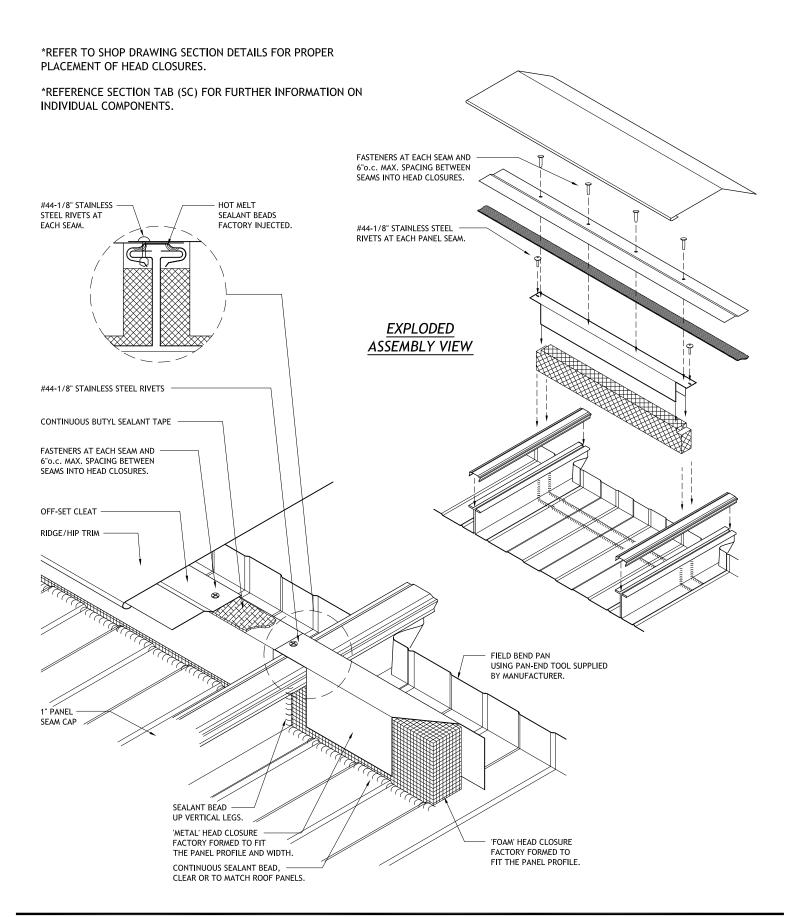


Panel Adjustment Detail
Folding Panel Pan
(PS) PANEL SYSTEM ASSEMBLIES





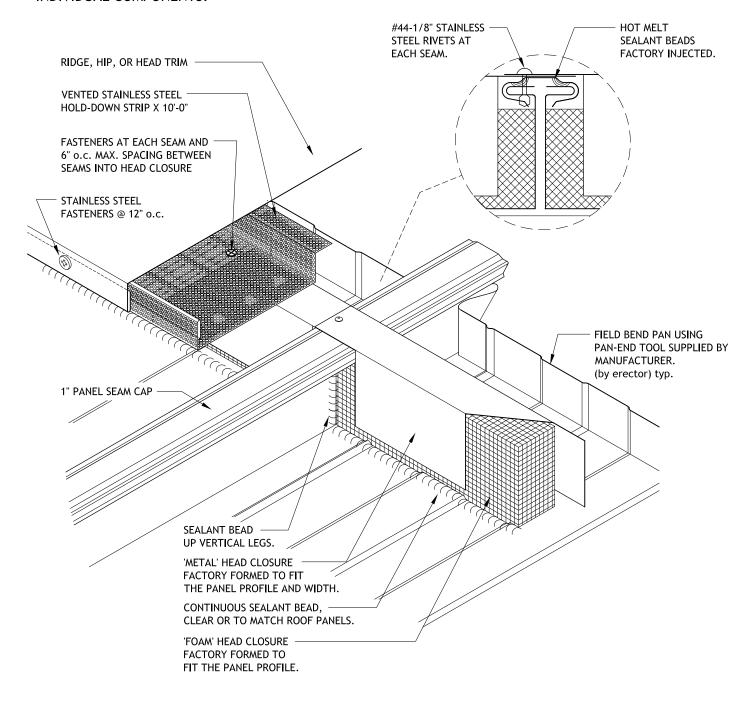
Seam Cap Lap Detail Intallation Instructions (PS) PANEL SYSTEM ASSEMBLIES





Head Assembly Detail Standard Panel System (PS) PANEL SYSTEM ASSEMBLIES *REFER TO SHOP DRAWING SECTION DETAILS FOR PROPER PLACEMENT OF HEAD CLOSURE AND PERFORATED VENT STRIP.

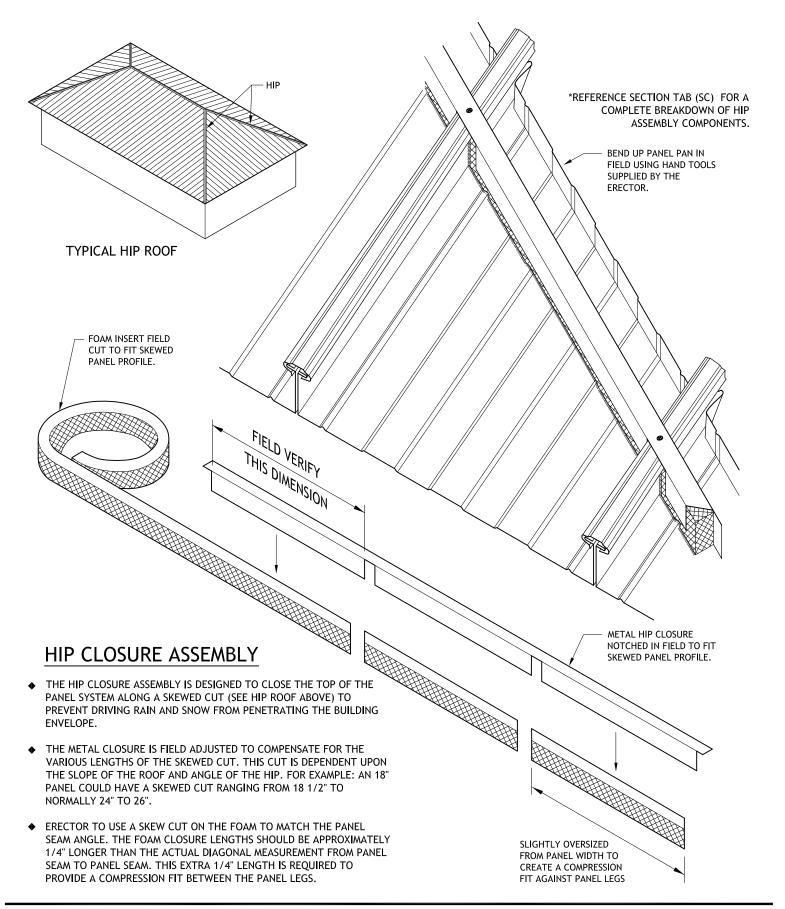
*REFERENCE SECTION TAB (SC) FOR FURTHER INFORMATION ON INDIVIDUAL COMPONENTS.





THE GARLAND COMPANY, INC.
GARLAND CANADA, INC.
THE GARLAND COMPANY UK, LTD

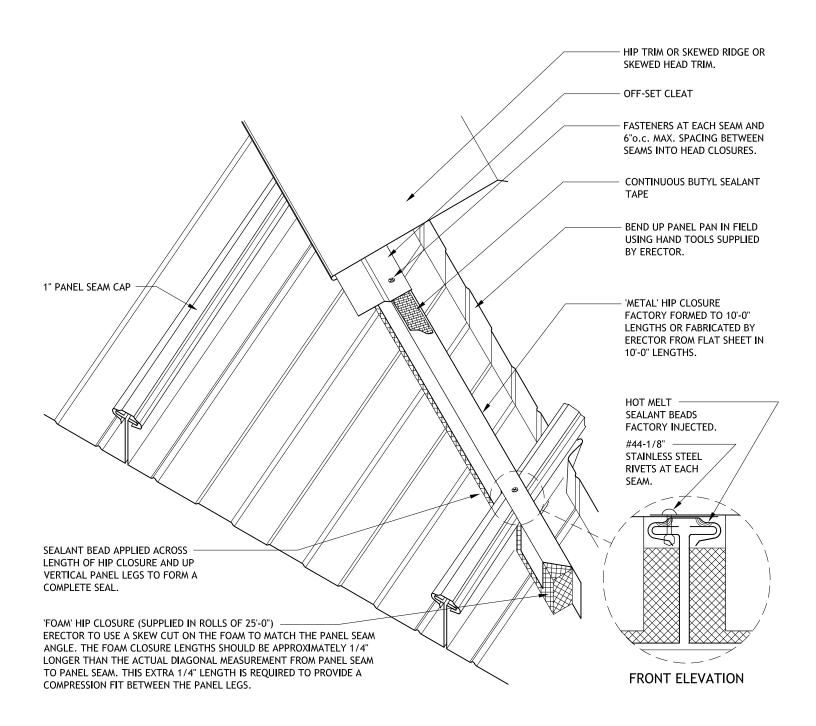
Vented Head Assembly Detail Standard or Batten Panel System (PS) PANEL SYSTEM ASSEMBLIES





Hip Closure Assembly
Detail 1 of 2
(PS) PANEL SYSTEM ASSEMBLIES

*REFERENCE SECTION TAB (SC) FOR A COMPLETE BREAKDOWN OF HIP ASSEMBLY COMPONENTS.





THE GARLAND COMPANY, INC.
GARLAND CANADA, INC.
THE GARLAND COMPANY UK, LTD

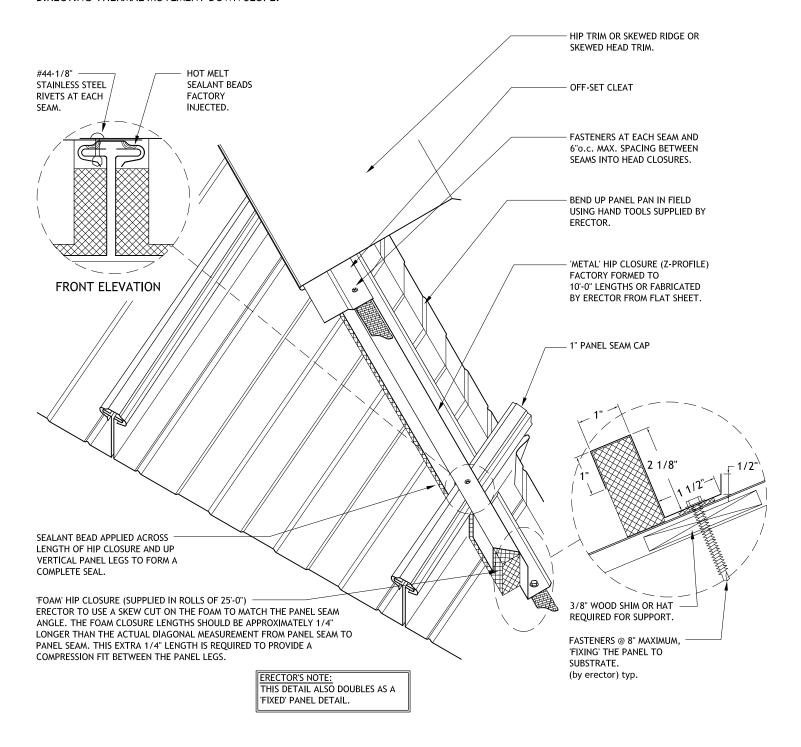
Hip Closure Assembly
Detail 2 of 2
(PS) PANEL SYSTEM ASSEMBLIES

pg. HA-3.2

*USED WHEN REQUIRED FOR HEAVILY SKEWED PANEL CUTS.

*REFERENCE SHOP DRAWINGS FOR SPECIFIC LOCATION(S) OF THIS ASSEMBLY.

*THIS ASSEMBLY 'FIXES' THE PANEL, THEREBY DIRECTING THERMAL MOVEMENT DOWN SLOPE.

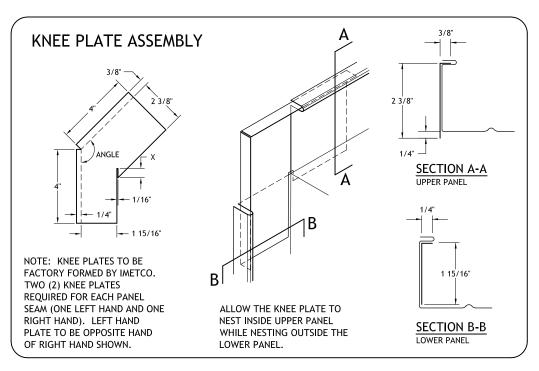


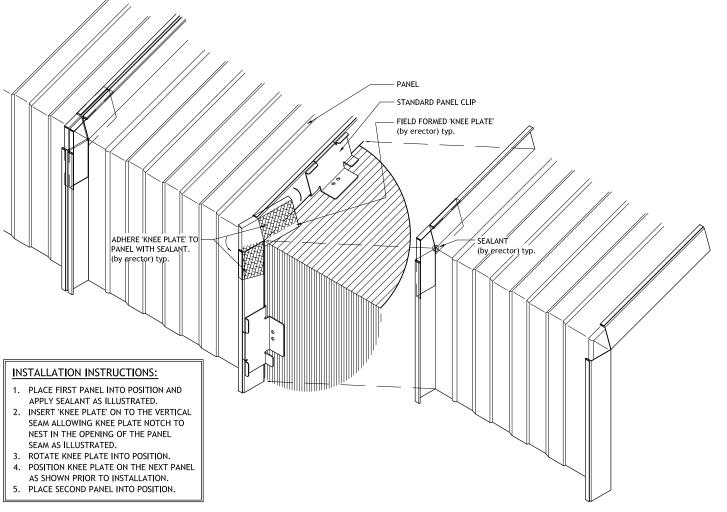


THE GARLAND COMPANY, INC.
GARLAND CANADA, INC.
THE GARLAND COMPANY UK, LTD

Hip Closure Assembly
Z-Profile Closure
(PS) PANEL SYSTEM ASSEMBLIES

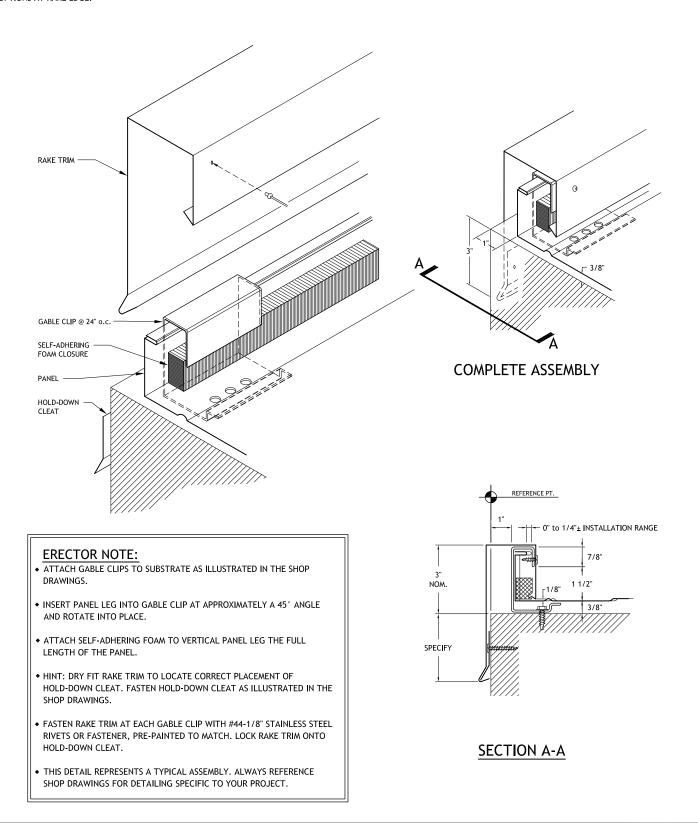
pg. HA-3.3







Standard Knee Plate Detail Fabrication and Installation (PS) PANEL SYSTEM ASSEMBLIES *REFERENCE SECTION TAB (PS), pg. ADJ-1.2 and ADJ-1.3 FOR PANEL TERMINATION OPTIONS AT RAKE EDGE.

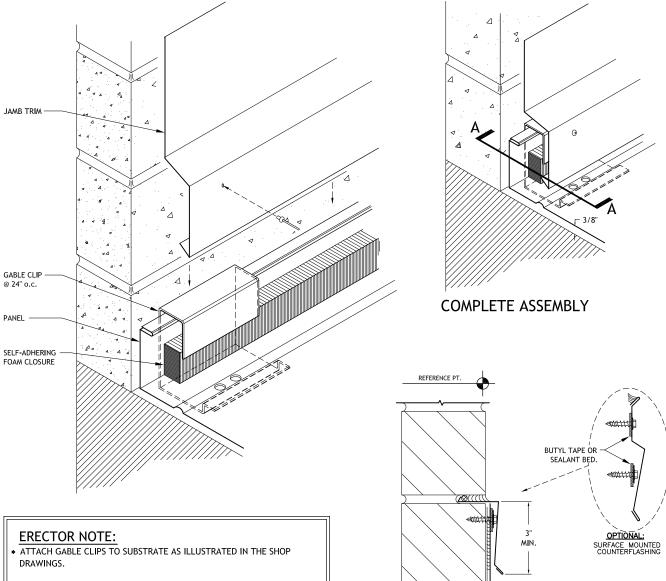




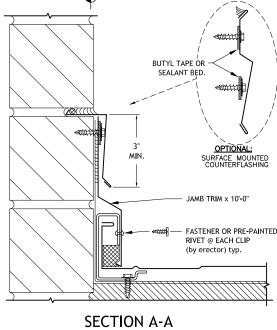
THE GARLAND COMPANY, INC.
GARLAND CANADA, INC.
THE GARLAND COMPANY UK, LTD

Rake Assembly Detail with Self-Adhering Foam Closure (PS) PANEL SYSTEM ASSEMBLIES

*REFERENCE SECTION TAB (PS), pg. ADJ-1.2 and ADJ-1.3 FOR PANEL TERMINATION OPTIONS AT JAMB EDGE.



- ◆ INSERT PANEL LEG INTO GABLE CLIP AT APPROXIMATELY A 45° ANGLE AND ROTATE INTO PLACE.
- ◆ ATTACH SELF-ADHERING FOAM TO VERTICAL PANEL LEG THE FULL LENGTH OF THE PANEL.
- ◆ COORDINATE PROPER LOCATION OF ASSOCIATED FLASHINGS, SEALANTS, AND OTHER COMPONENTS WITH JAMB TRIM.
- ◆ FASTEN JAMB TRIM AT EACH GABLE CLIP WITH #44-1/8" STAINLESS STEEL RIVETS OR FASTENER, PRE-PAINTED TO MATCH. LOCK RAKE TRIM ONTO HOLD-DOWN CLEAT.
- ◆ THIS DETAIL REPRESENTS A TYPICAL ASSEMBLY. ALWAYS REFERENCE SHOP DRAWINGS FOR DETAILING SPECIFIC TO YOUR PROJECT.

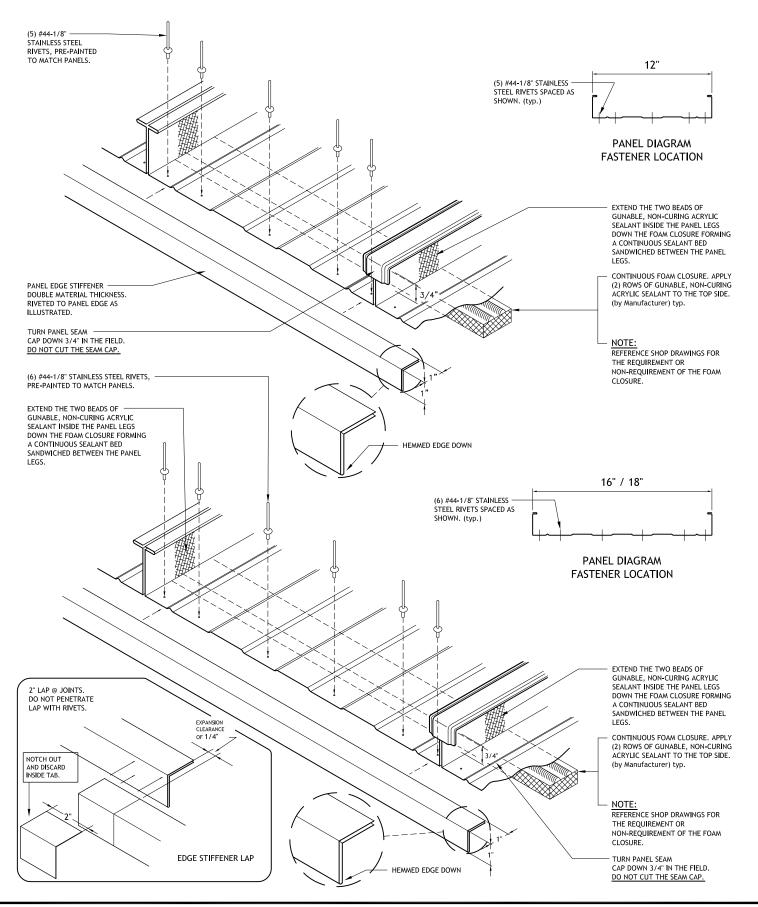




THE GARLAND COMPANY, INC. GARLAND CANADA, INC. THE GARLAND COMPANY UK, LTD

Sloping Jamb Assembly Detail with Self-Adhering Foam Closure (PS) PANEL SYSTEM ASSEMBLIES

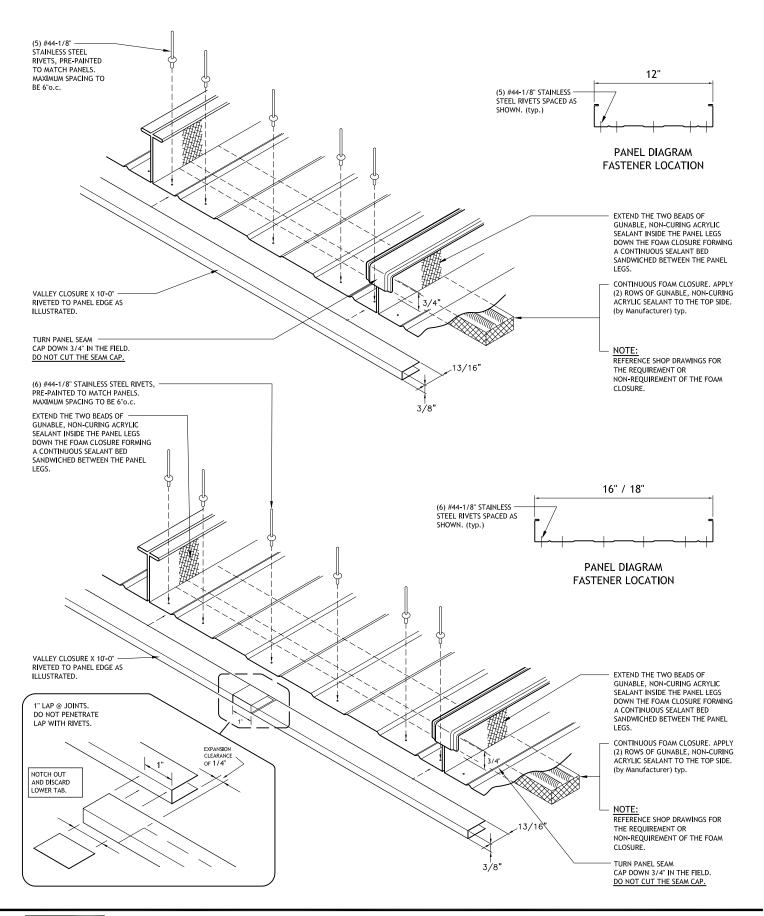
pg. NEO-1.2





Seam-End Closure Detail 12", 16" and 18" Panel Width (PS) PANEL SYSTEM ASSEMBLIES

pg. SC-1.1



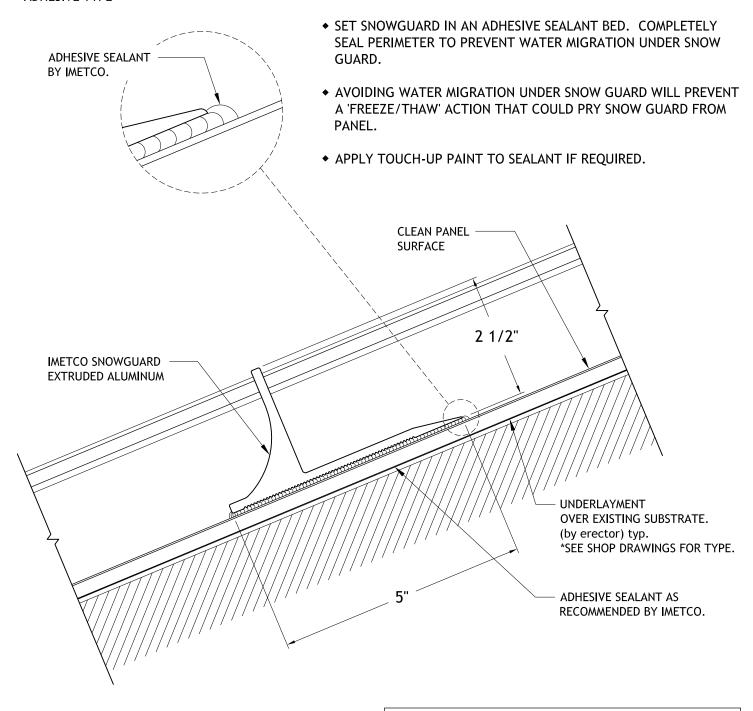


Valley Closure Detail 12", 16" and 18" Panel Width (PS) PANEL SYSTEM ASSEMBLIES

pg. VC-1.1

SNOWGUARD ATTACHMENT DETAIL:

*ADHESIVE TYPE





ALWAYS REFERENCE SHOP DRAWINGS FOR APPROPRIATE NUMBER OF SNOW GUARDS AND THEIR LOCATIONS. AS WELL, REFERENCE THE ASSOCIATED SNOW GUARD DETAILS IN THIS SECTION FOR FURTHER INFORMATION.



THE GARLAND COMPANY, INC.
GARLAND CANADA, INC.
THE GARLAND COMPANY UK, LTD

Adhered Snow Guard
Attachment Detail
(PS) PANEL SYSTEM ASSEMBLIES

- Air temperature must be above 50° F for the entire curing time (day and night) with no anticipated rain for at least 48 hours and no snowfall for at least (5) five days.
- The Panel surface must be clean and dry. The surface on which the snow guard is to be installed may be cleaned with isopropyl alcohol. Any damp surfaces should be dried with an absorbent cloth. Again, the surface must be clean and completely dry.
- Apply the supplied sealant to the scored side of the snow guard so that when installed, a continuous bed of sealant will adhere the snow guard to the panel surface.
- Position the snow guard onto the panel and apply pressure to force the sealant out and around the top edge and sides of the snow guard. Next, remove for 5 to 10 seconds to allow the sealant to begin curing. Reposition snow guard to the panel surface. When repositioning, be certain the sealant forms a continuous seal around the snow guard's perimeter. This will prevent melted snow and rain from collecting under the snow guard. See attached details. Check for proper placement dimensions, quantity of snow guards per panel, and aesthetic alignment of each individual guard.
- On sunny days or during warm weather, it is recommended that the snow guard be temporarily taped into position for at least 24 hours. This allows the sealant to develop sufficient adhesion in order to hold the snow guard in place. Masking tape is to be applied carefully across the snow guard's top surface.
- After the sealant has developed sufficient adhesion, any masking tape is then to be carefully removed. Areas of exposed sealant may be touched-up with paint that matches the panel surface if required.

NOTE:

Snow guard adhesive sealant is sold (12) tubes per case. Approximately 100 snow guards can be applied per case.



THE GARLAND COMPANY, INC.

GARLAND CANADA, INC.

THE GARLAND COMPANY UK, LTD

Adhered Snow Guard Installation Instructions (PS) PANEL SYSTEM ASSEMBLIES





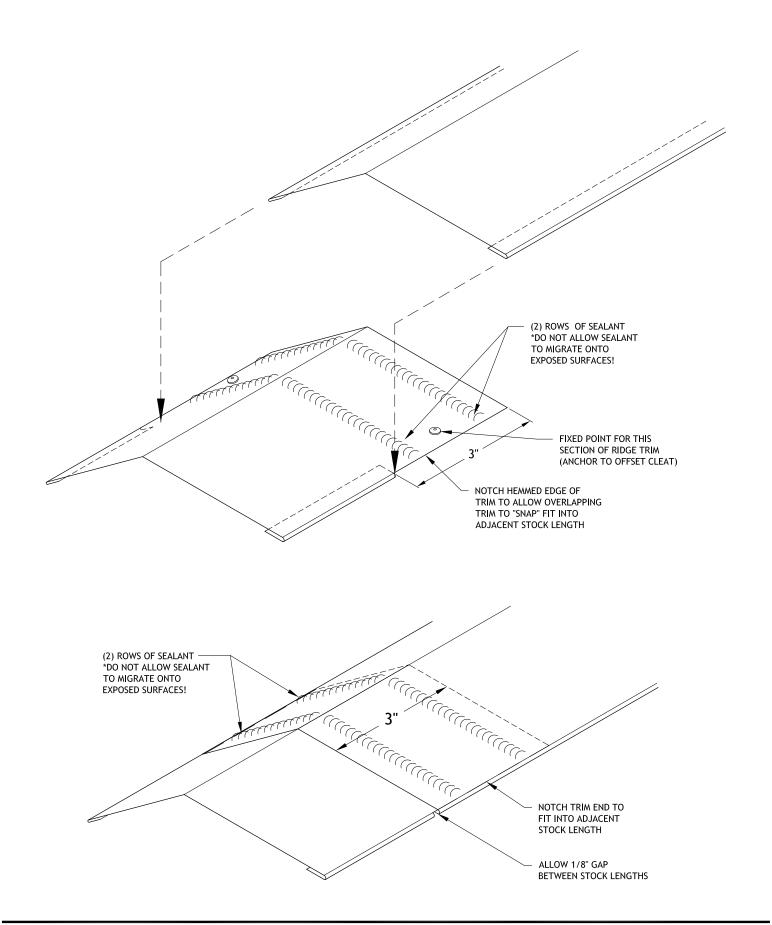
ROOF APPLICATIONS SUPPORT



The following series of details is provided as a supplement to the 11" x 17" shop drawings. **ALWAYS start with your shop drawings!** They will govern specific component assemblies.

SECTION CONTENTS

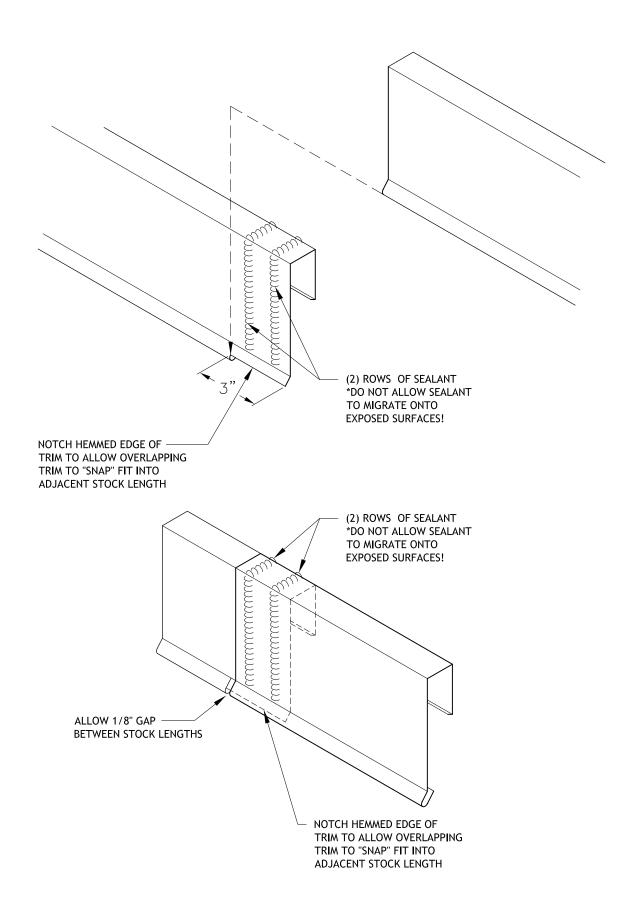
DETAIL:	PAGE NO:
Trim Lap - Standard Ridge	TRIM-1.1
Trim Lap - Standard Rake	TRIM-1.2
Trim Lap - Standard Eave	TRIM-1.3
Trim Lap - Standard Head	TRIM-1.4
Trim Lap - Standard Valley	TRIM-1.5
Trim Lap - Standard Gutter (Option 1)	TRIM-1.6
Trim Lap - Standard Gutter (Option 2)	TRIM-1.7
Trim Lap - Standard Gutter with Aluminized Gutter Tape (Option 1)	TRIM-1.8
Trim Lap - Standard Gutter with Aluminized Gutter Tape (Option 2)	TRIM-1.9
Trim Lap - Standard Gutter Outlet Tube	TRIM-1.10
Curb Assembly - Exploded View	CURB-1.1
Curb Assembly - Typical	CURB-1.2
Curb Assembly - Hot Flue	CURB-1.3
Curb Assembly - Chimney	CURB-1.4
Curb Assembly - Section A-A (Detail 1 of 5)	CURB-2.1
Curb Assembly - Section B-B (Detail 2 of 5)	CURB-2.2
Curb Assembly - Section C-C (Detail 3 of 5)	CURB-2.3
Curb Assembly - Valley Pan to Jamb Pan (Detail 4 of 5)	CURB-2.4
Curb Assembly - Jamb Pan to Panel (Detail 5 of 5)	CURB-2.5
Pipe Boot Detail - Boot Through Panel Pan	PIPE-1.1
Pipe Boot Detail - Through Panel Seam (Detail 1 of 2)	PIPE-2.1
Pipe Boot Detail - Through Panel Seam (Detail 2 of 2)	PIPE-2.2
Heavy-Duty Pipe Boot Detail - Through Panel Seam (Detail 1 of 2)	PIPE-3.1
Heavy-Duty Pipe Boot Detail - Through Panel Seam (Detail 2 of 2)	PIPE-3.2
Downspout Assembly - Standard 3" x 4"	DS-1.1
Downspout Assembly - Standard 4" x 5"	DS-2.1
Downspout Assembly - Standard 5" x 6"	DS-3.1
Gutter Expansion Joint	GF I-1 1





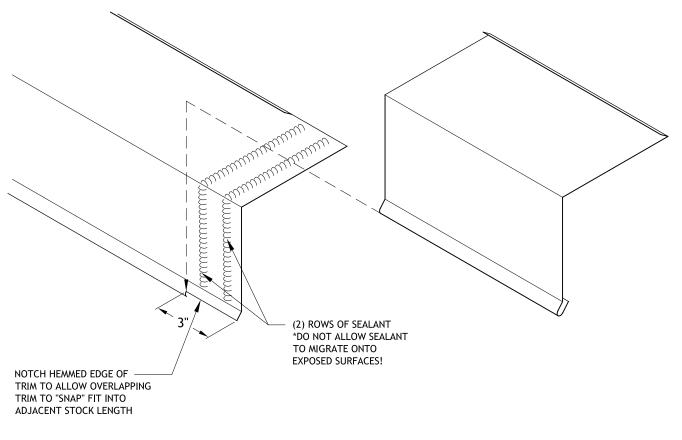
Standard Ridge Trim
End Lap Detail
(RA) ROOF APPLICATIONS

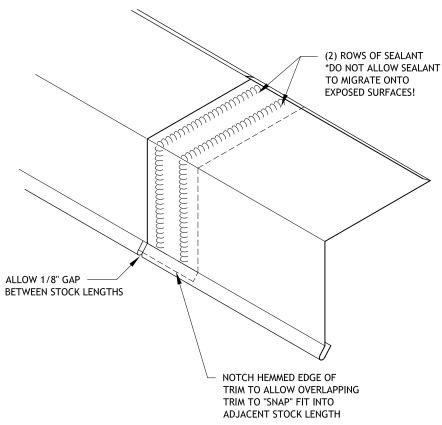
pg. TRIM-1.1





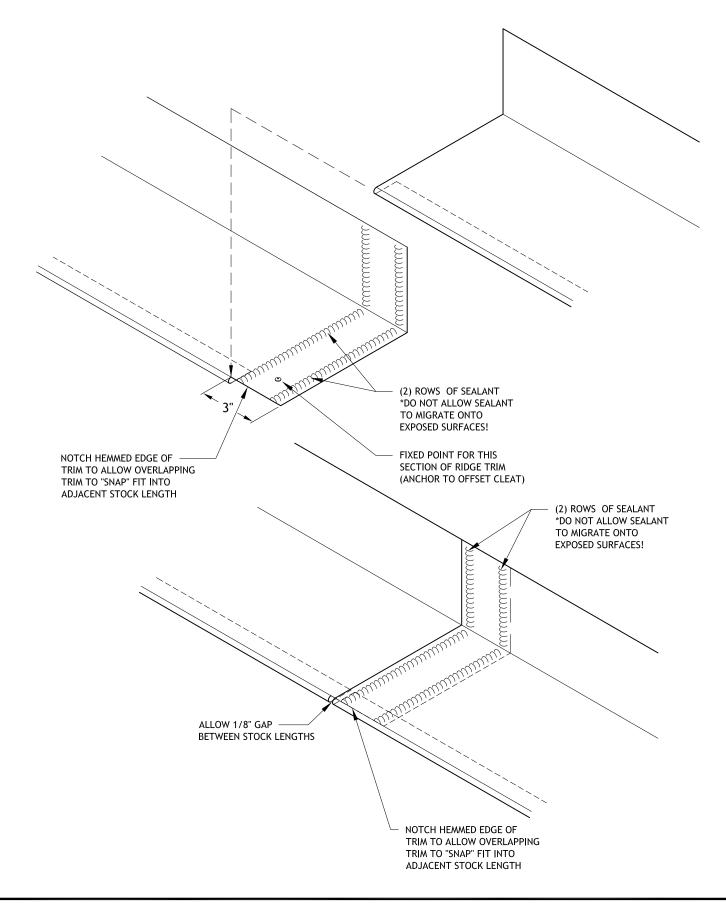
Standard Rake Trim
End Lap Detail
(RA) ROOF APPLICATIONS





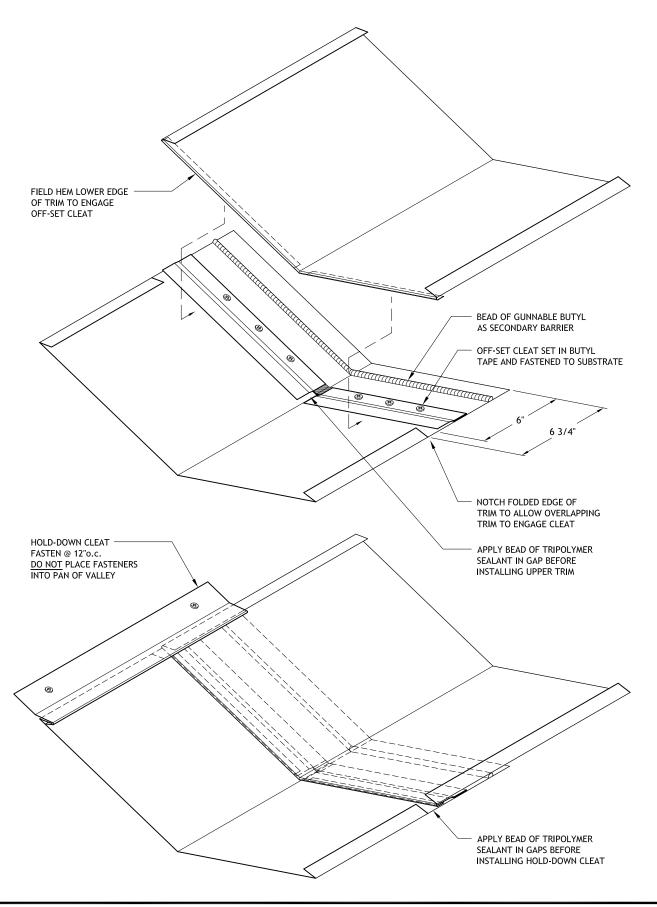


Standard Eave Trim
End Lap Detail
(RA) ROOF APPLICATIONS



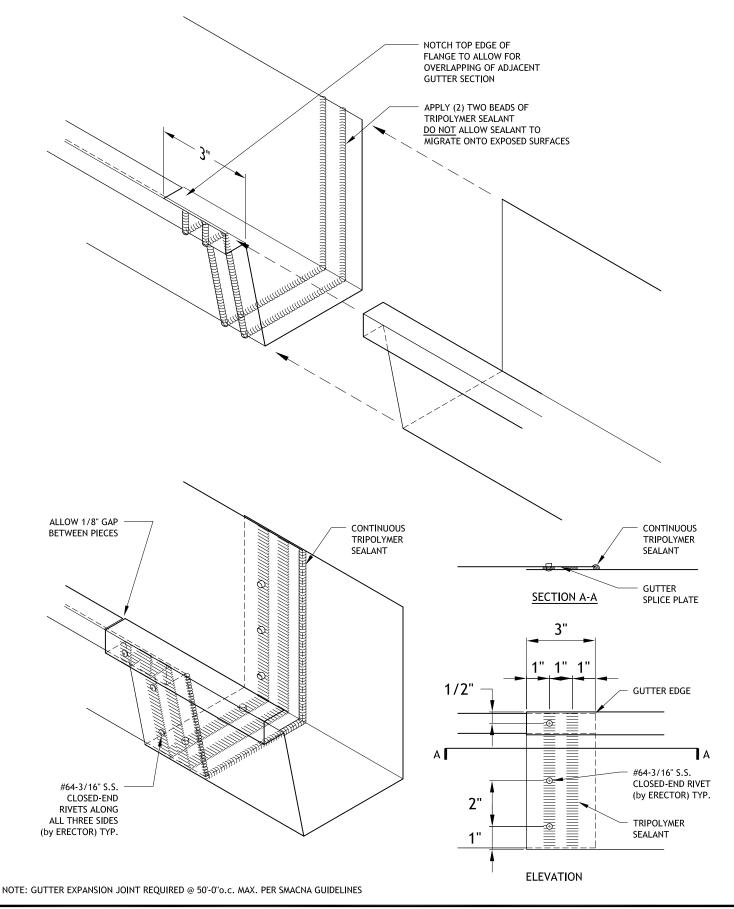


Standard Head Trim
End Lap Detail
(RA) ROOF APPLICATIONS





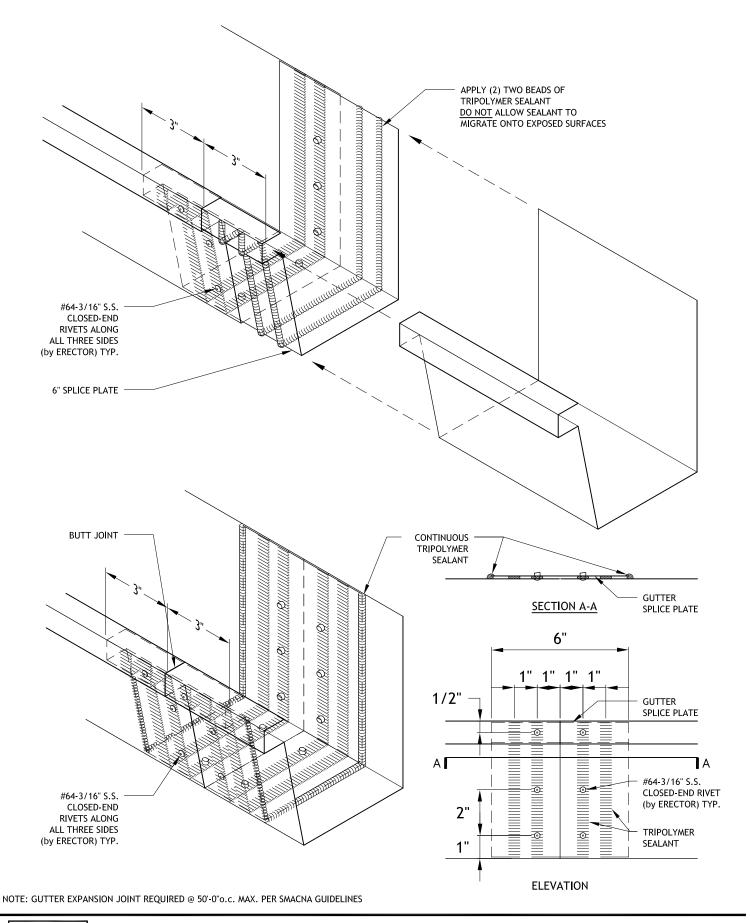
Standard Valley Trim
End Lap Detail
(RA) ROOF APPLICATIONS





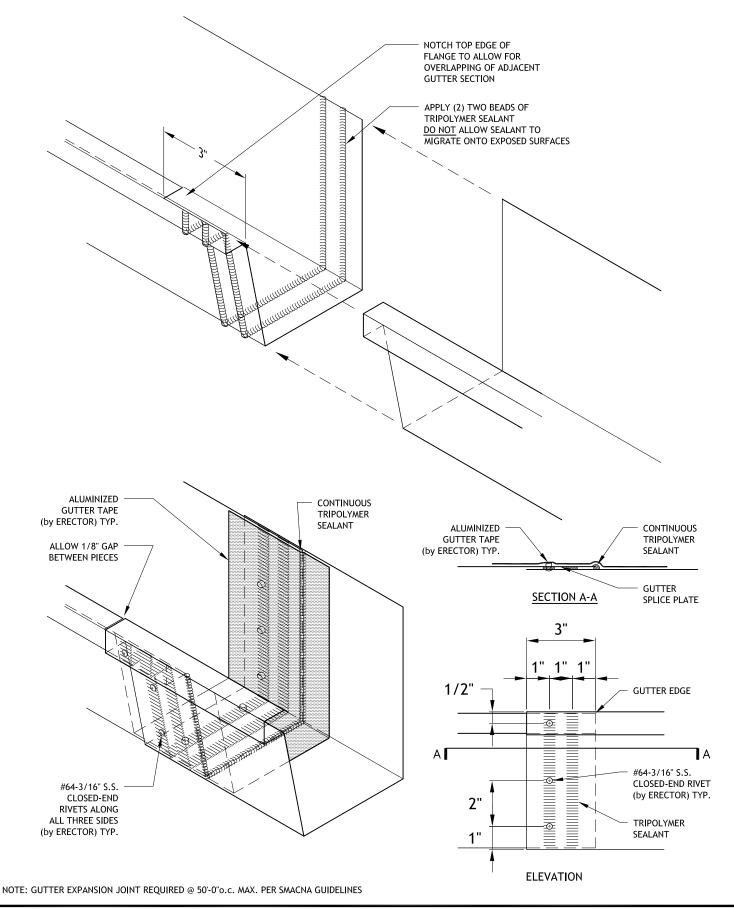
Standard Gutter Trim
End Lap Detail - Option #1
(RA) ROOF APPLICATIONS

pg. TRIM-1.6



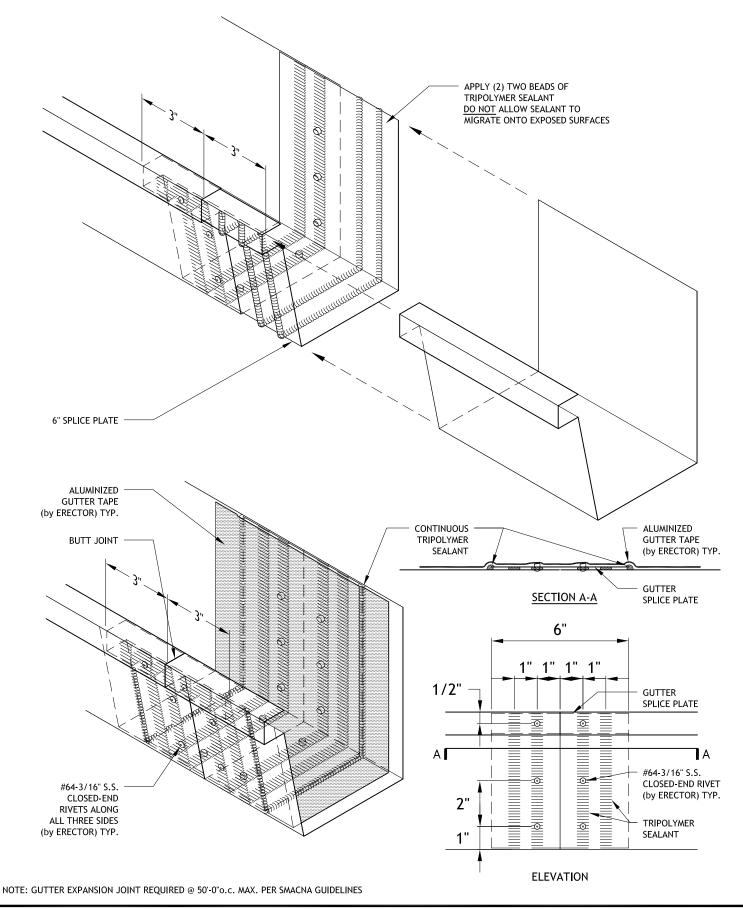


Standard Gutter Trim
End Lap Detail - Option #2
(RA) ROOF APPLICATIONS



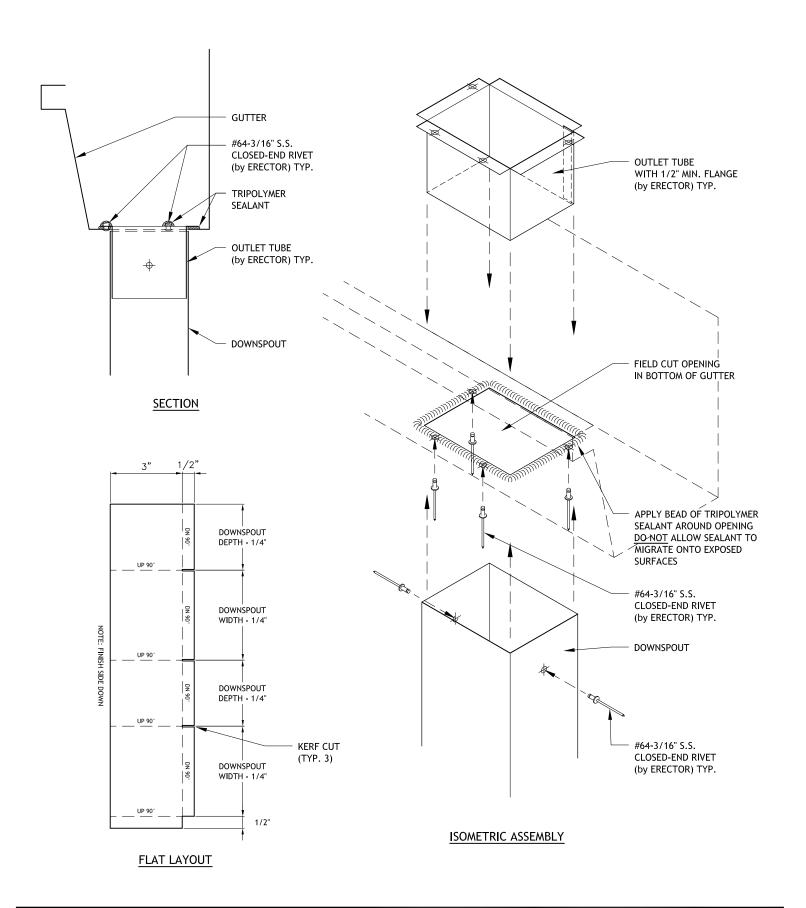


Standard Gutter Trim End Lap Detail
Option #1 with Aluminized Gutter Tape
(RA) ROOF APPLICATIONS



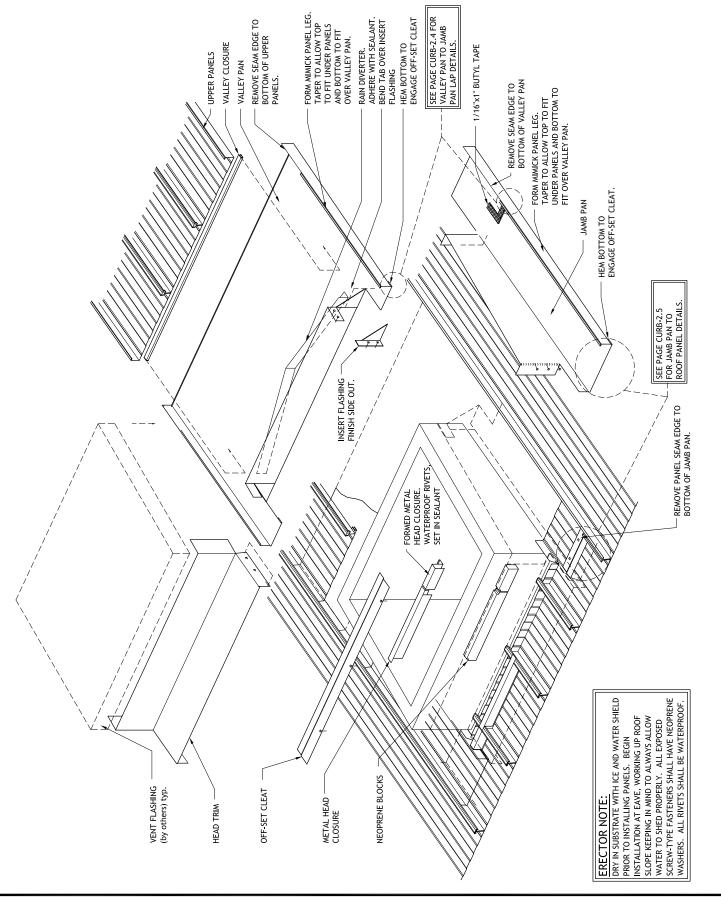


Standard Gutter Trim End Lap Detail
Option #2 with Aluminized Gutter Tape
(RA) ROOF APPLICATIONS



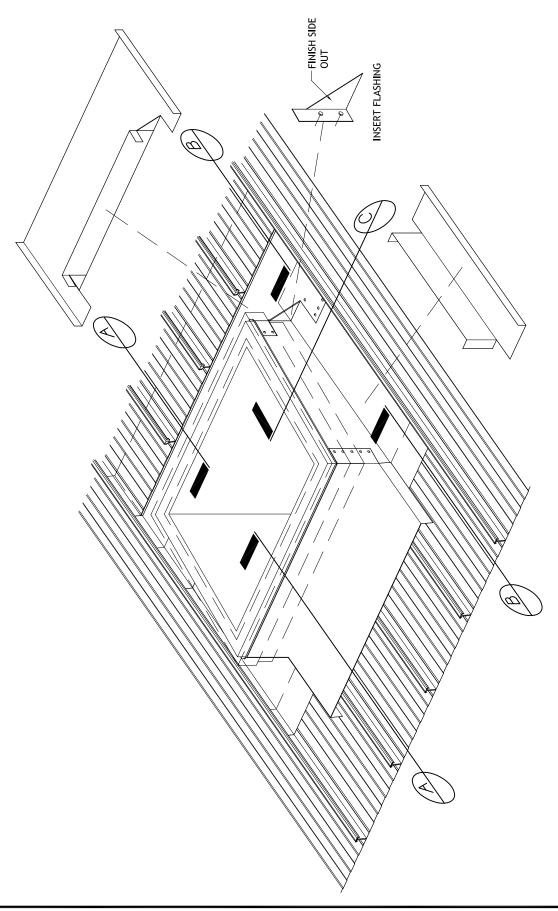


Standard Gutter
Outlet Tube
(RA) ROOF APPLICATIONS



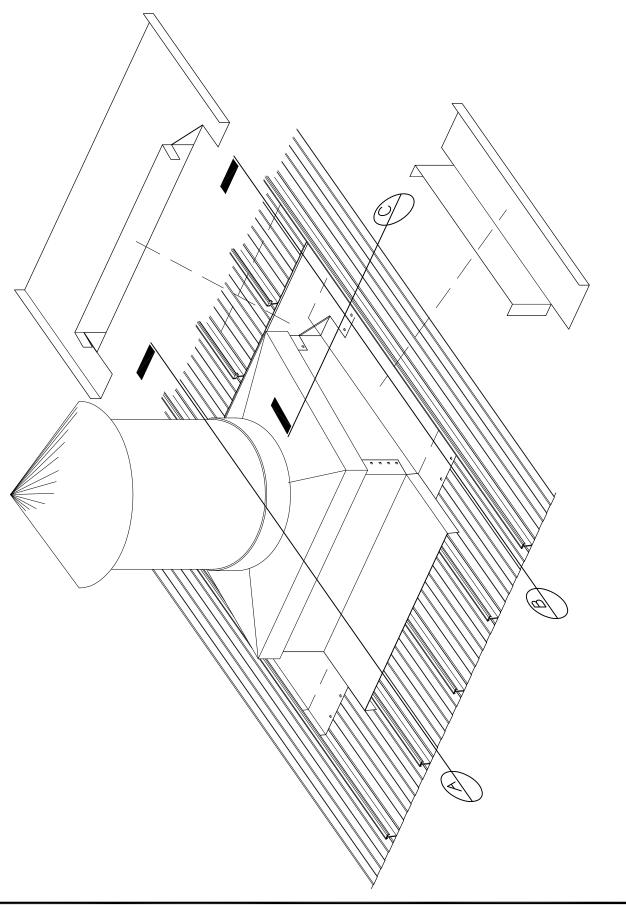


Curb Assembly - Exploded View Refer to Supporting Details 1-5 (RA) ROOF APPLICATIONS



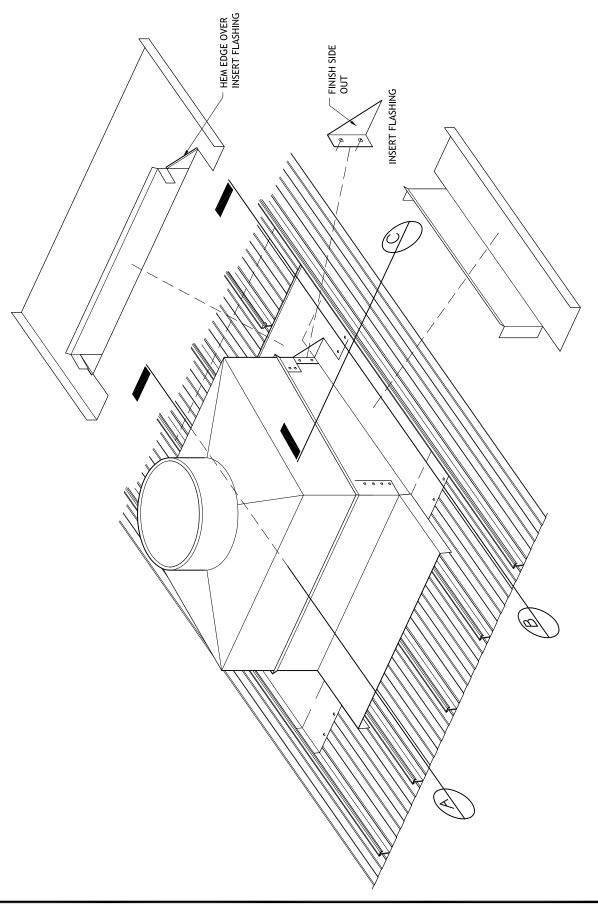


Curb - Typical
Refer to Supporting Details 1-5
(RA) ROOF APPLICATIONS



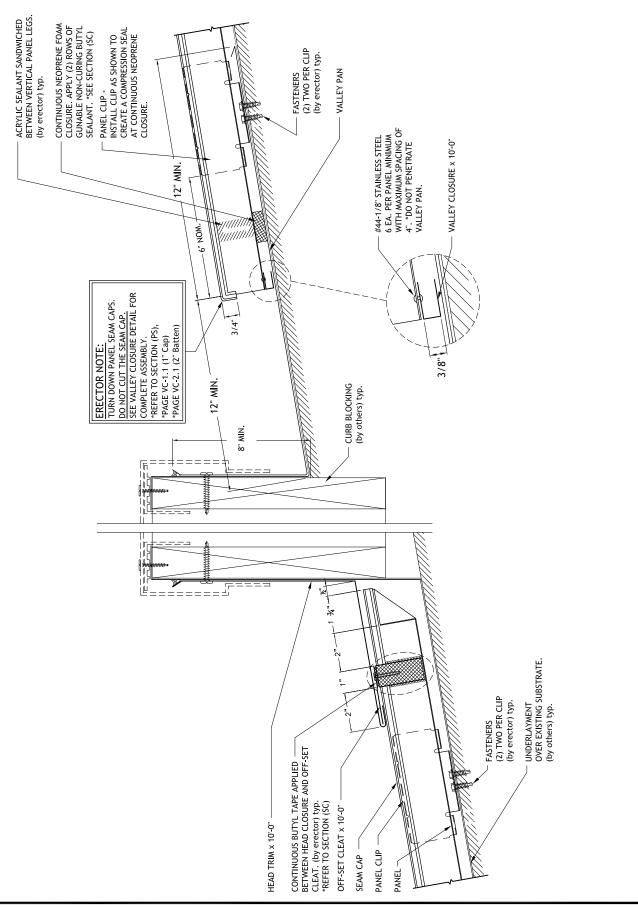


Curb - Hot Flue Refer to Supporting Details 1-5 (RA) ROOF APPLICATIONS



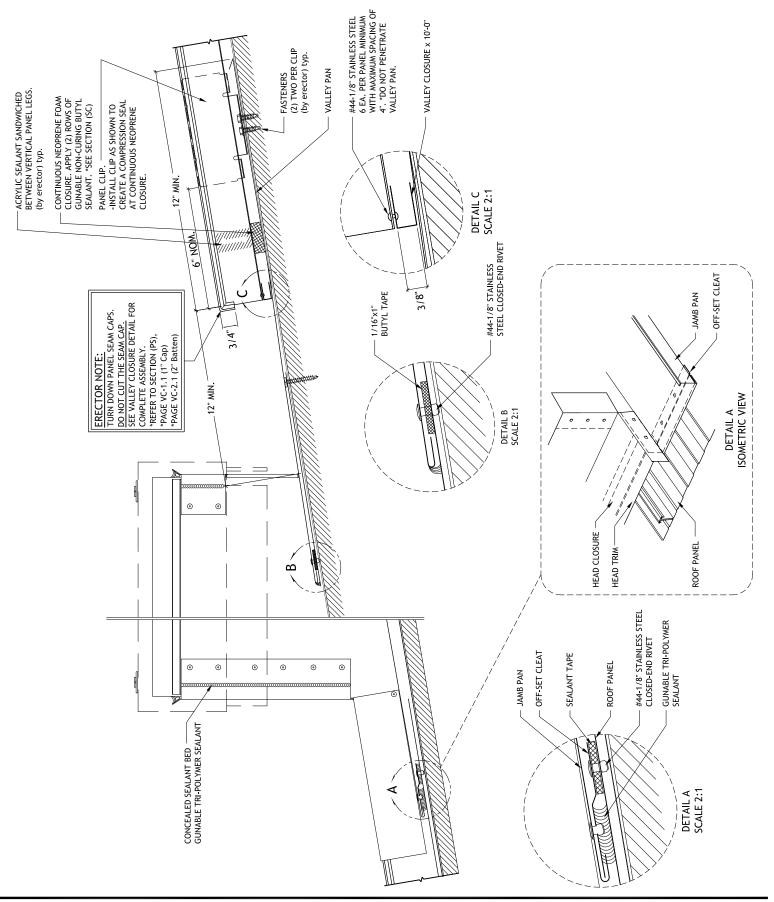


Curb - Chimney
Refer to Supporting Details 1-5
(RA) ROOF APPLICATIONS



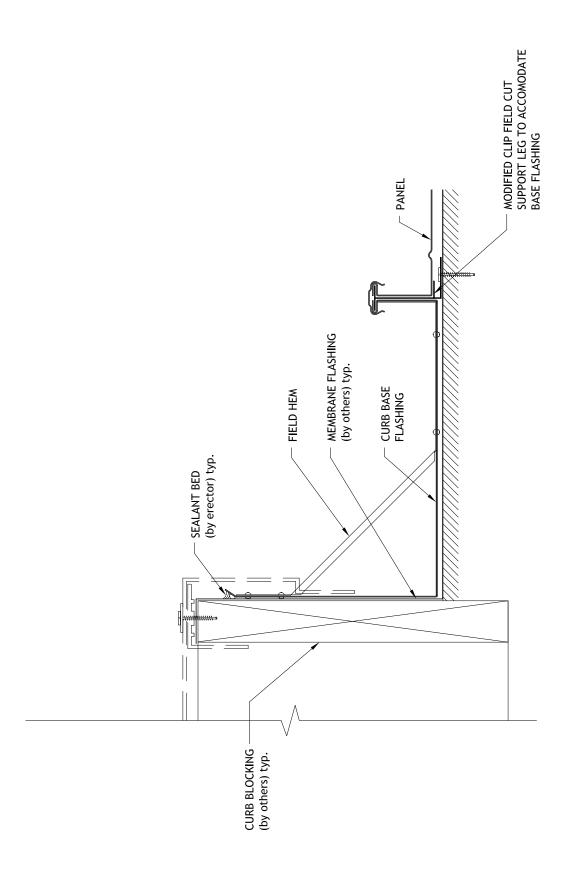


Curb Section A-A (Detail 1 of 5) (RA) ROOF APPLICATIONS



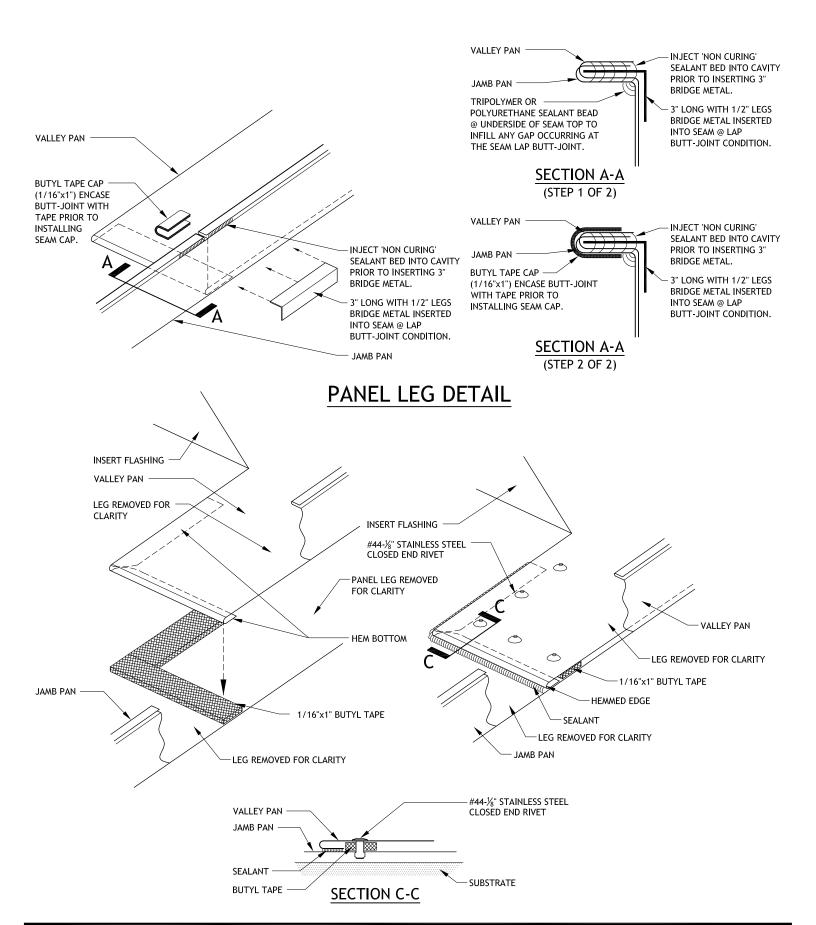


Curb Section B-B (Detail 2 of 5) (RA) ROOF APPLICATIONS





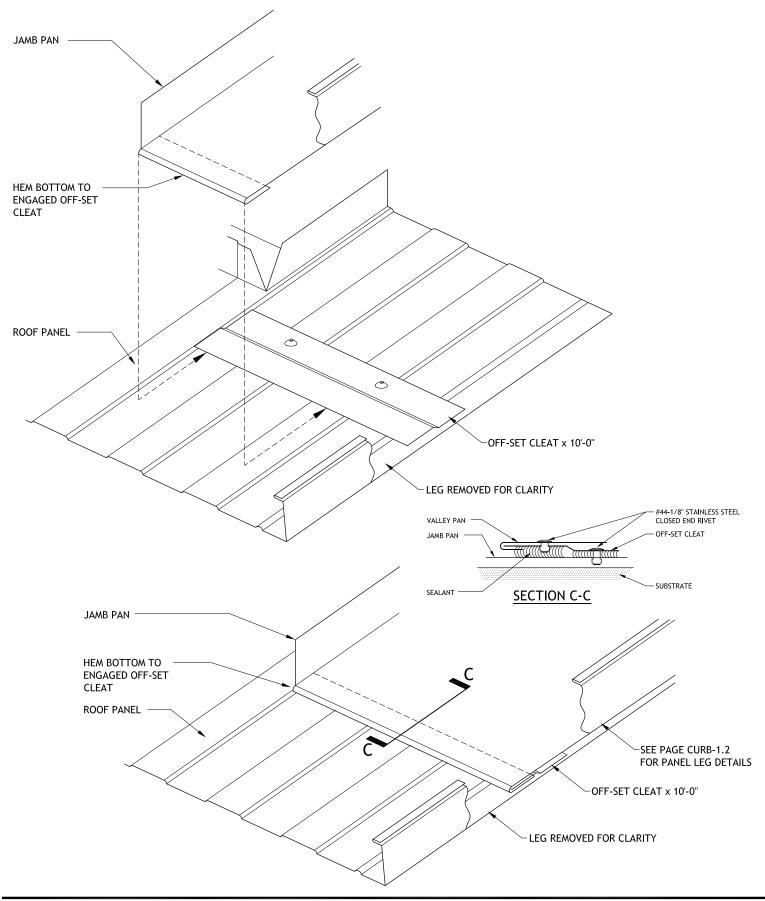
Curb Section C-C (Detail 3 of 5) (RA) ROOF APPLICATIONS





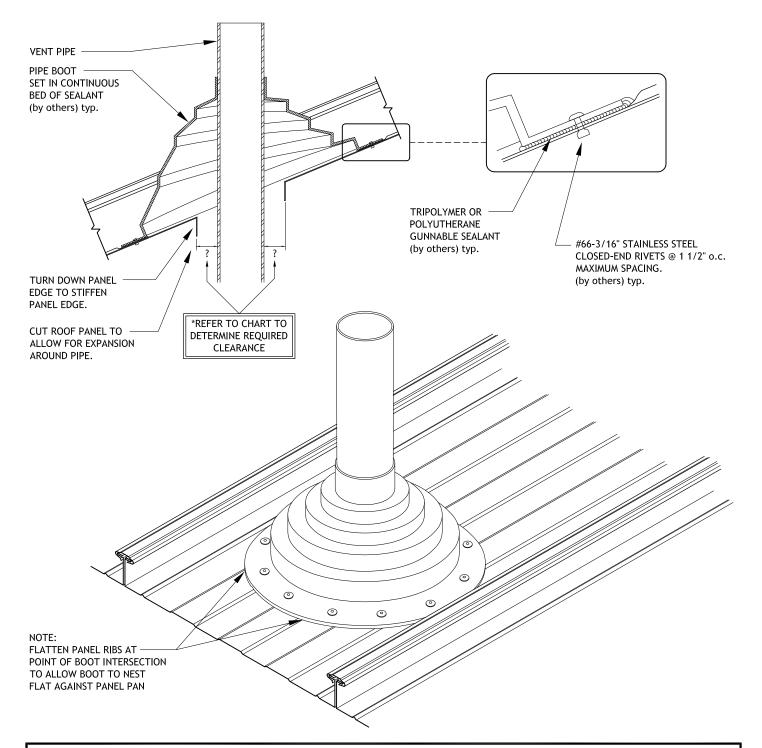
Valley Pan to Jamb Pan Lap Detail (Detail 4 of 5)

(RA) ROOF APPLICATIONS





Jamb Pan to Panel Detail (Detail 5 of 5)
(RA) ROOF APPLICATIONS



THERMAL MOVEMENT CLEARANCE CHART:

THERMAL MOVEMENT CLEARANCES ARE A FUNCTION OF MATERIAL TYPE AND LENGTH OF PANEL. USE THIS CHART TO DETERMINE THE REQUIRED CLEARANCE FOR THIS CONDITION.

TOTAL MOVEMENT (INCHES) FOR STEEL PANELS:						
DISTANCE FROM FIXED POINT IN FEET						
10	20	30	40	50		
EXPANSION/CONTRACTION CLEARANCE						
.145	.289	.434	.579	.724		

TOTAL MOVEMENT (INCHES) FOR ALUMINUM PANELS:						
DISTANCE FROM FIXED POINT IN FEET						
10	20	30	40	50		
EXPANSION/CONTRACTION CLEARANCE						
.279	.557	.836	1.115	1.393		



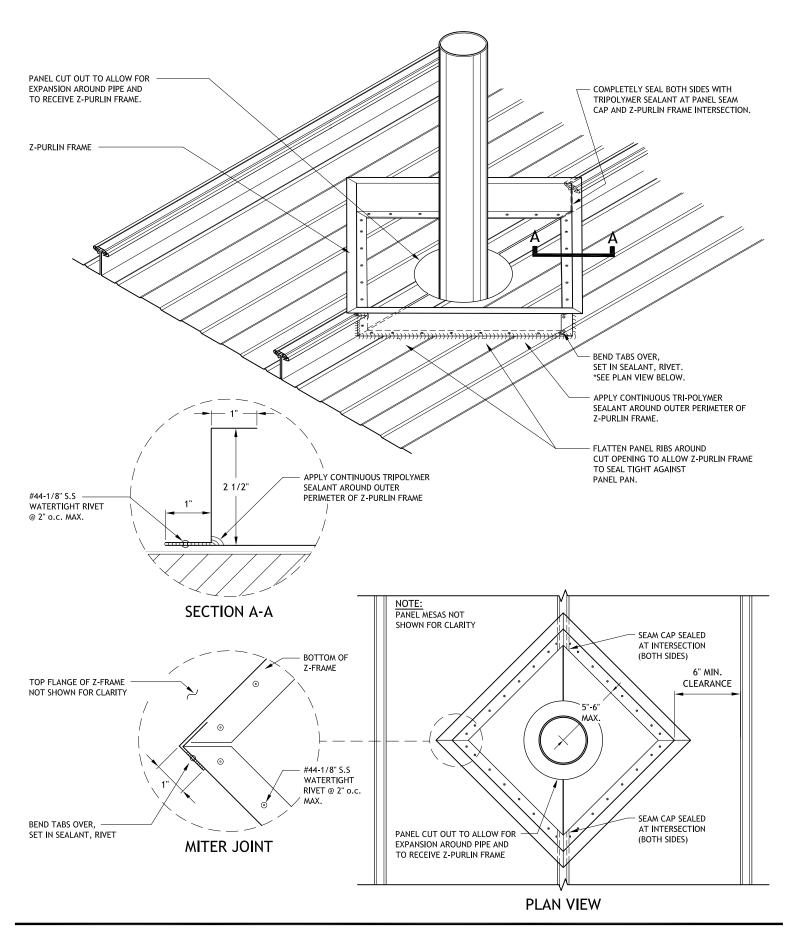
THE GARLAND COMPANY, INC.

GARLAND CANADA, INC.

THE GARLAND COMPANY UK, LTD

Pipe Boot Detail Boot Through Panel Pan (RA) ROOF APPLICATIONS

pg. PIPE-1.1

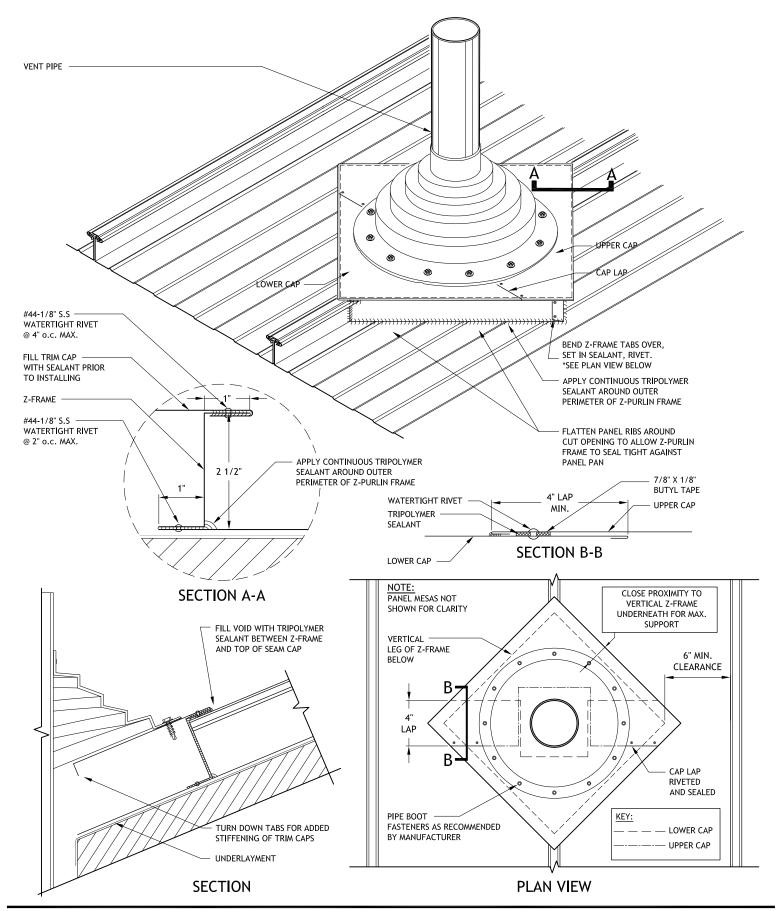




Pipe Boot Through Panel Seam (Detail 1 of 2)

(RA) ROOF APPLICATIONS

pg. PIPE-2.1

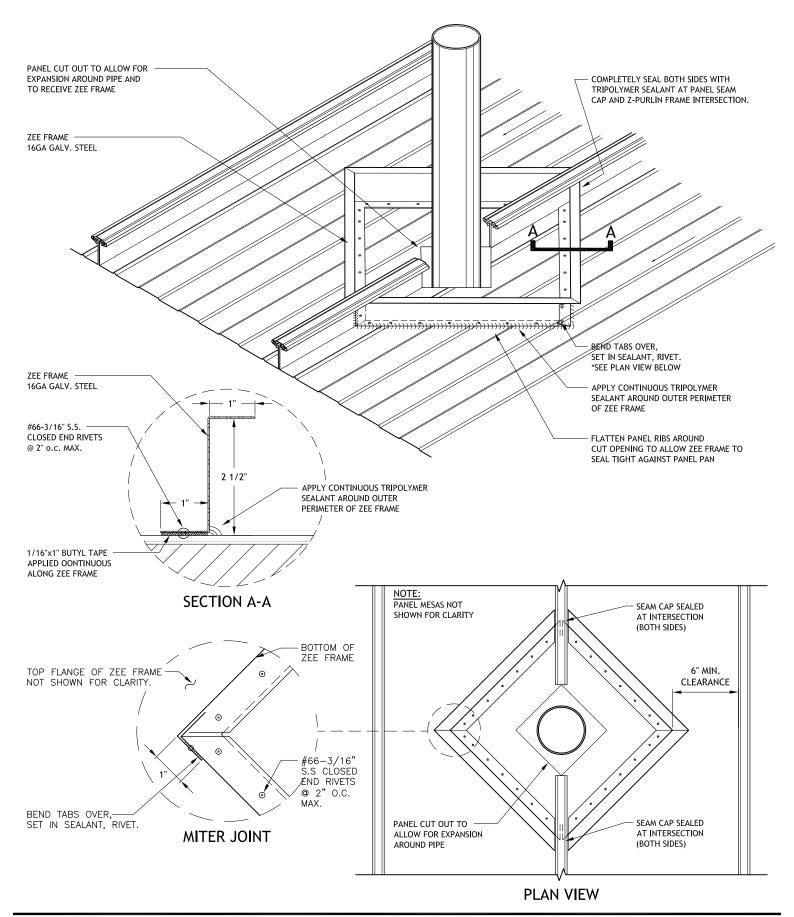




Pipe Boot Through Panel Seam (Detail 2 of 2)

(RA) ROOF APPLICATIONS

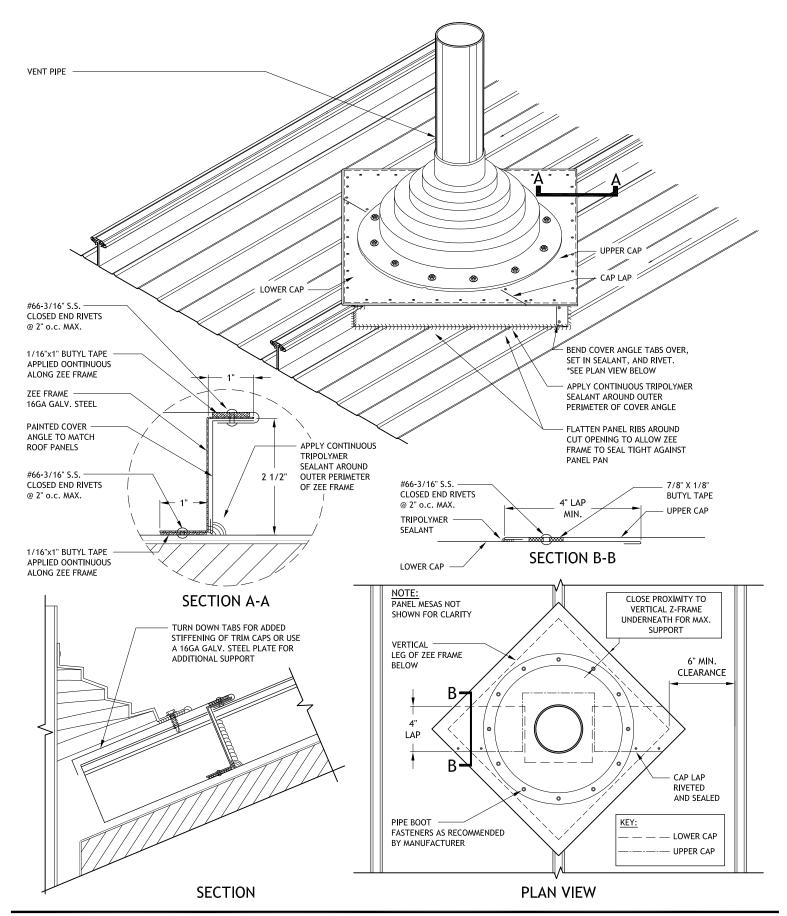
pg. PIPE-2.2





Heavy Duty Boot Through Panel Seam (Detail 1 of 2)

(RA) ROOF APPLICATIONS

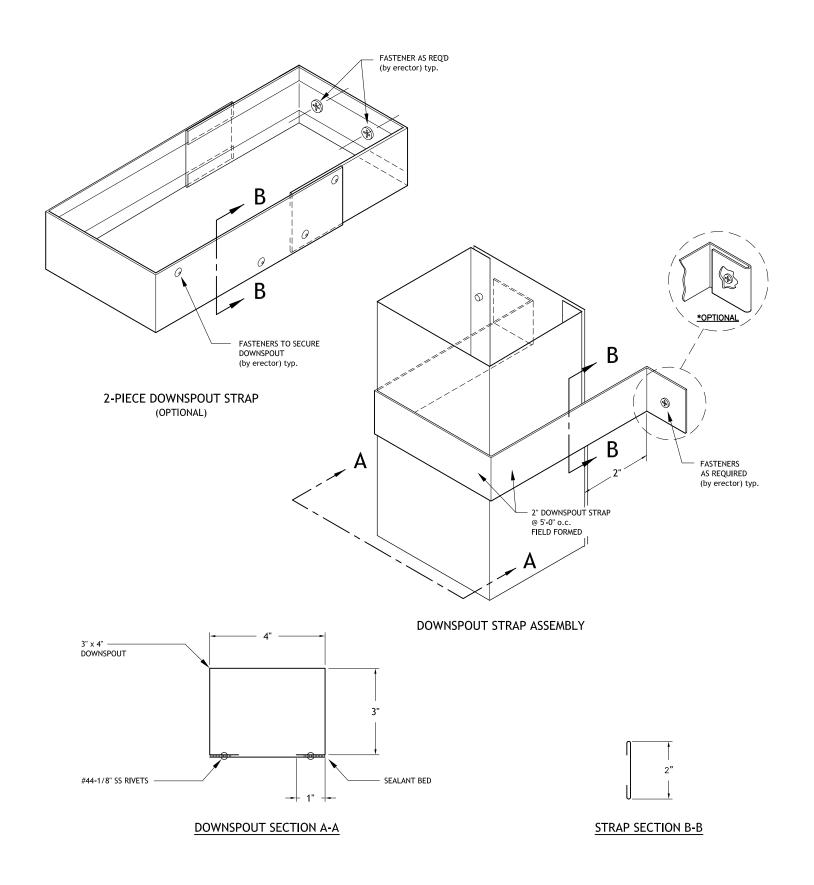




Heavy Duty Boot Through Panel Seam (Detail 2 of 2)

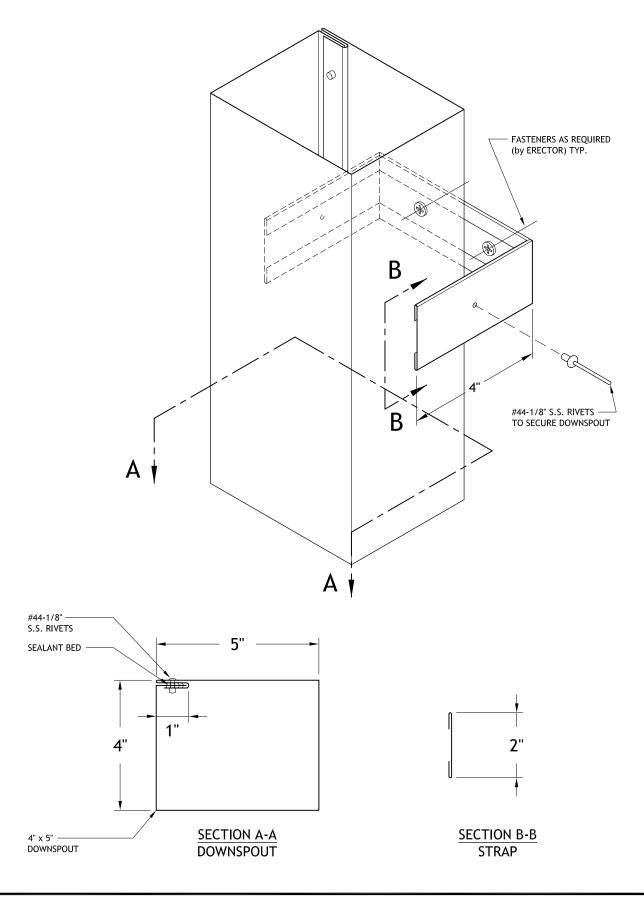
(RA) ROOF APPLICATIONS

pg. PIPE-3.2



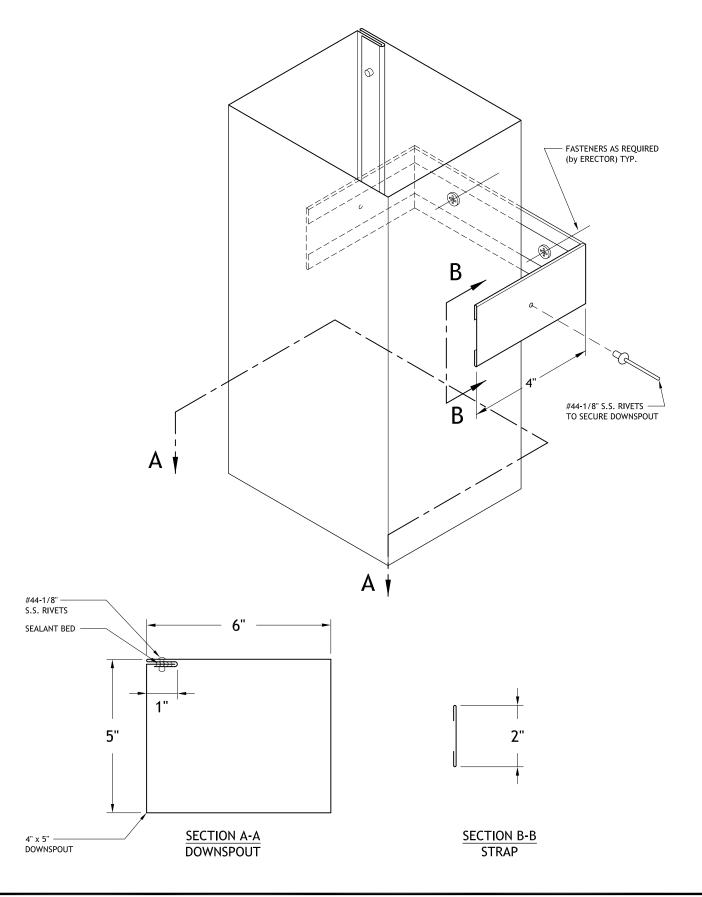


Downspout Assembly Standard 3" x 4" Size (RA) ROOF APPLICATIONS



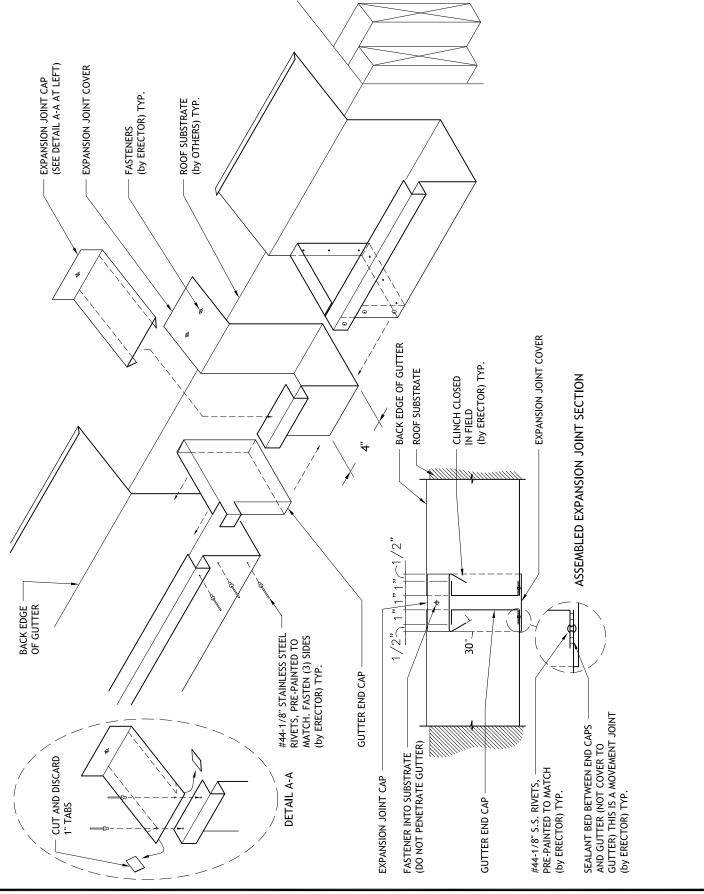


Downspout Assembly
Standard 4" x 5"
(RA) ROOF APPLICATIONS





Downspout Assembly
Standard 5" x 6"
(RA) ROOF APPLICATIONS





Standard Gutter
Expansion Joint Detail
(RA) ROOF APPLICATIONS

pg. GEJ-1.1





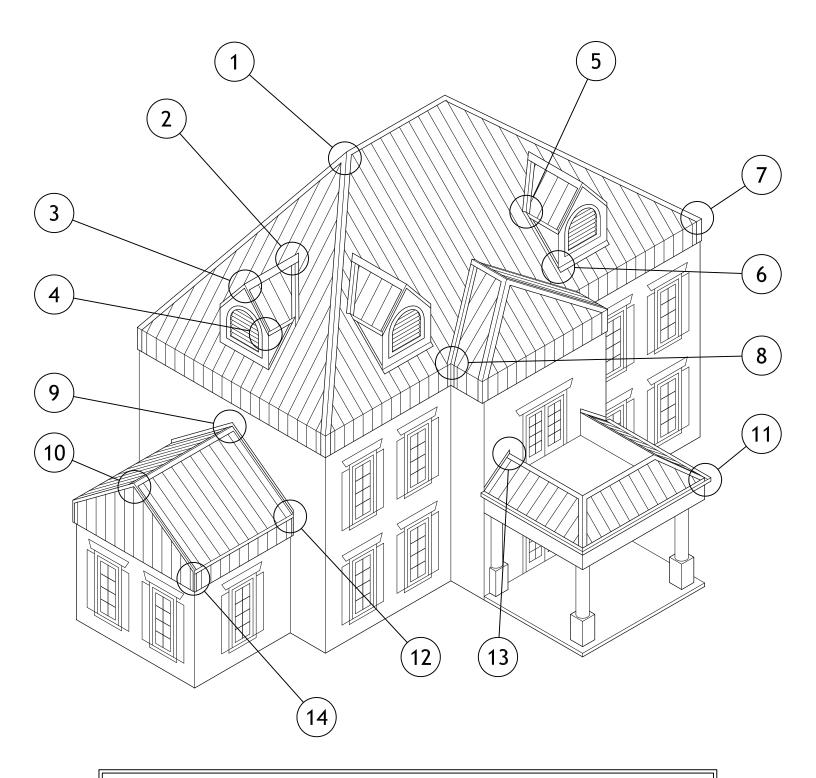
FIELD TRANSITIONS SUPPORT



The following series of details is provided as a supplement to the 11" x 17" shop drawings. **ALWAYS start with your shop drawings!** They will govern specific component assemblies.

SECTION CONTENTS

DETAIL:	PAGE NO:
QUICK REFERENCE GUIDE	FT-00
Ridge to Hip (Detail 1 of 2)	FT-01.1
Ridge to Hip (Detail 2 of 2)	FT-01.2
Ridge at Dormer (Detail 1 of 2)	FT-02.1
Ridge at Dormer (Detail 2 of 2)	FT-02.2
Ridge to Rake	FT-03
Rake to Eave	FT-04
Valley to Sloping Jamb	FT-05
Sloping Jamb to Head	FT-06
Hip to Vertical Trim	FT-07
Valley to Vertical Trim	FT-08
Ridge at Jamb (Detail 1 of 2)	FT-09.1
Ridge at Jamb (Detail 2 of 2)	FT-09.2
Vertical Panel at Rake	FT-10
Hip at Gutter	FT-11
Vertical and Sloping Jamb at Eave	FT-12
Peak at Sloping Jamb	FT-13
Rake to Eave with Vertical Panel	FT-14



DETAIL REFERENCE GUIDELINE:

LOCATE THE FIELD TRANSITION FROM THE DRAWING ABOVE THAT MATCHES YOUR SPECIFIC SITUATION. REFER TO THE CALL-OUT NUMBER AND TURN TO THE CORRESPONDING PAGE.

FOR EXAMPLE:

VALLEY TO SLOPING JAMB IS LOCATED ABOVE AS:



, TURN TO PAGE FT-05 IN THIS SECTION.



THE GARLAND COMPANY, INC.

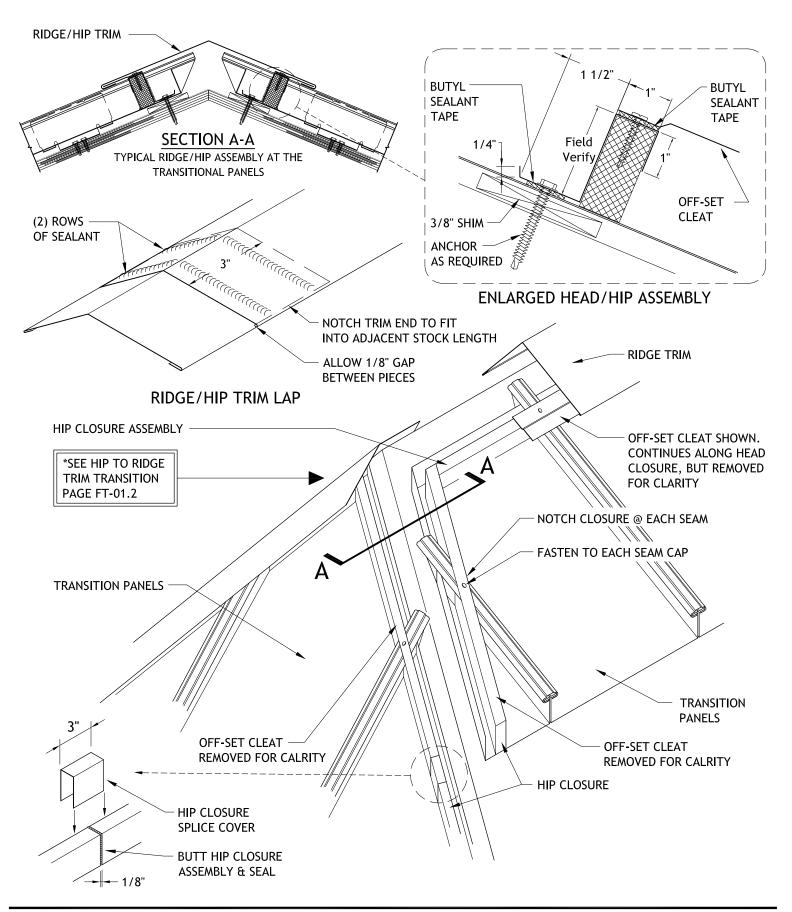
GARLAND CANADA, INC.

THE GARLAND COMPANY UK, LTD

QUICK REFERENCE GUIDE

(FT) FIELD TRANSITIONS

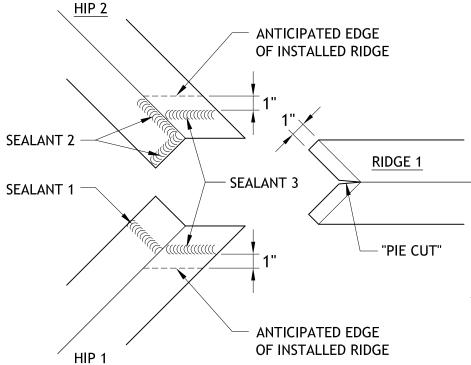
pg. FT-00



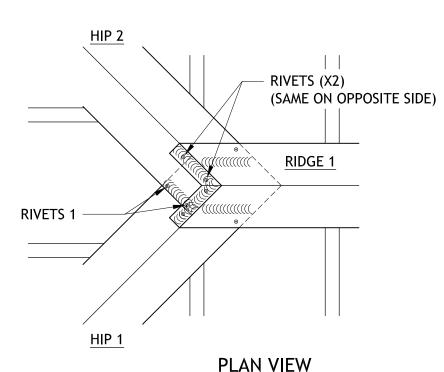


1

Ridge to Hip Transition (Detail 1 of 2)



EXPLODED VIEW



INSTALLATION STEPS:

- 1) DRY FIT ALL COMPONENTS PRIOR TO APPLYING SEALANT.
- 2) INSTALL HIP 1 AND APPLY SEALANT BEAD 1 AS SHOWN.
- 3) INSTALL HIP 2 AND APPLY SEALANT BEAD 2 AS SHOWN.
- 4) INSTALL RIVETS 1*.
- 5) LOCATE EDGE OF RIDGE 1 ON HIP 1 AND HIP 2 AND APPLY SEALANT 3 AS SHOWN.
- 6) NOTCH AND FORM 1" TABS ON END OF RIDGE 1.
- 7) INSTALL RIVETS (X2)*.

*RIVETS: #44-1/8 STAINLESS STEEL, CLOSED END (WATERTIGHT) PAINTED TO MATCH WITH

TOUCH-UP PAINT.

REFER TO SECTION TAB (SC)



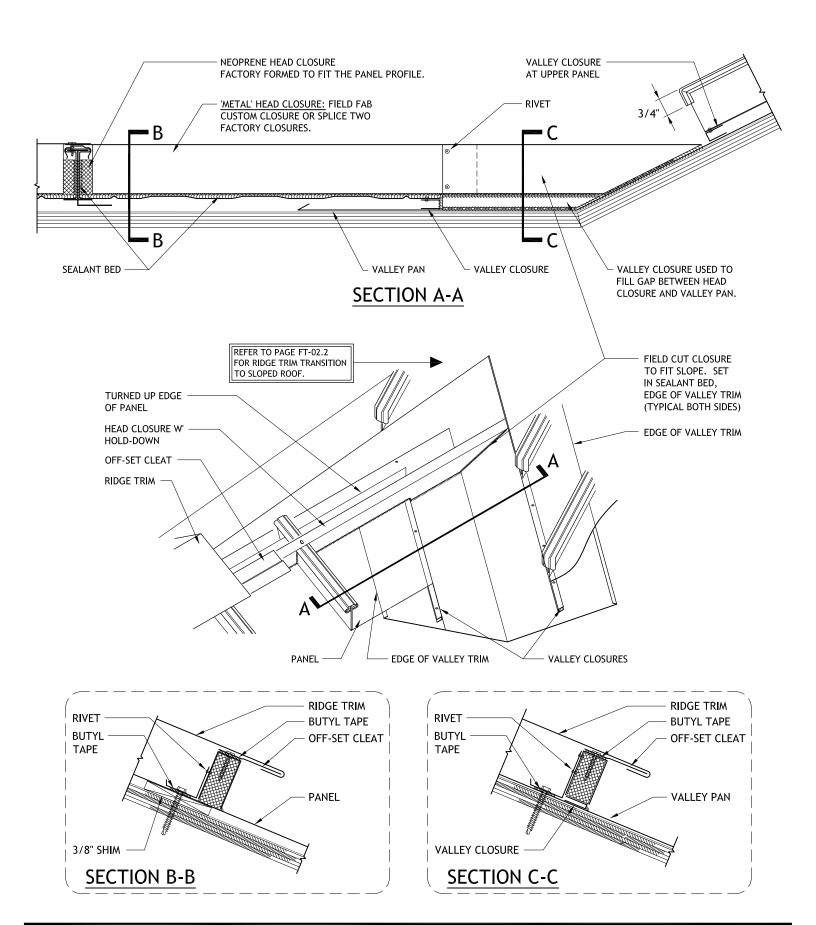
THE GARLAND COMPANY, INC.
GARLAND CANADA, INC.
THE GARLAND COMPANY UK, LTD



Ridge to Hip Transition (Detail 2 of 2)

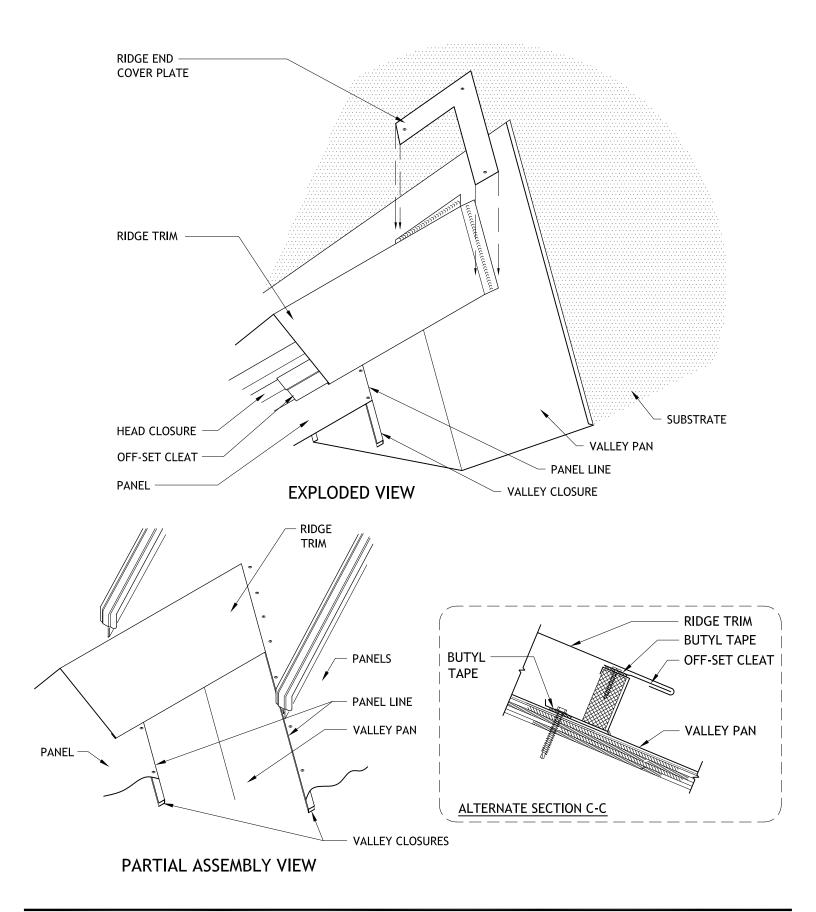
(FT) FIELD TRANSITIONS

pg. FT-01.2



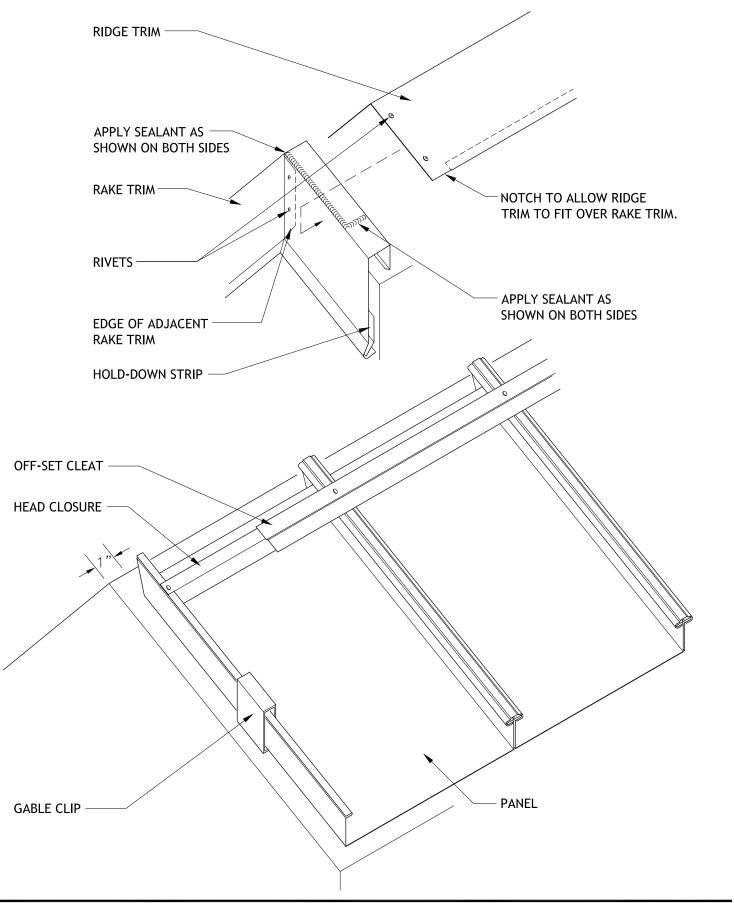


Pidge to Slope Transition (Detail 1 of 2)





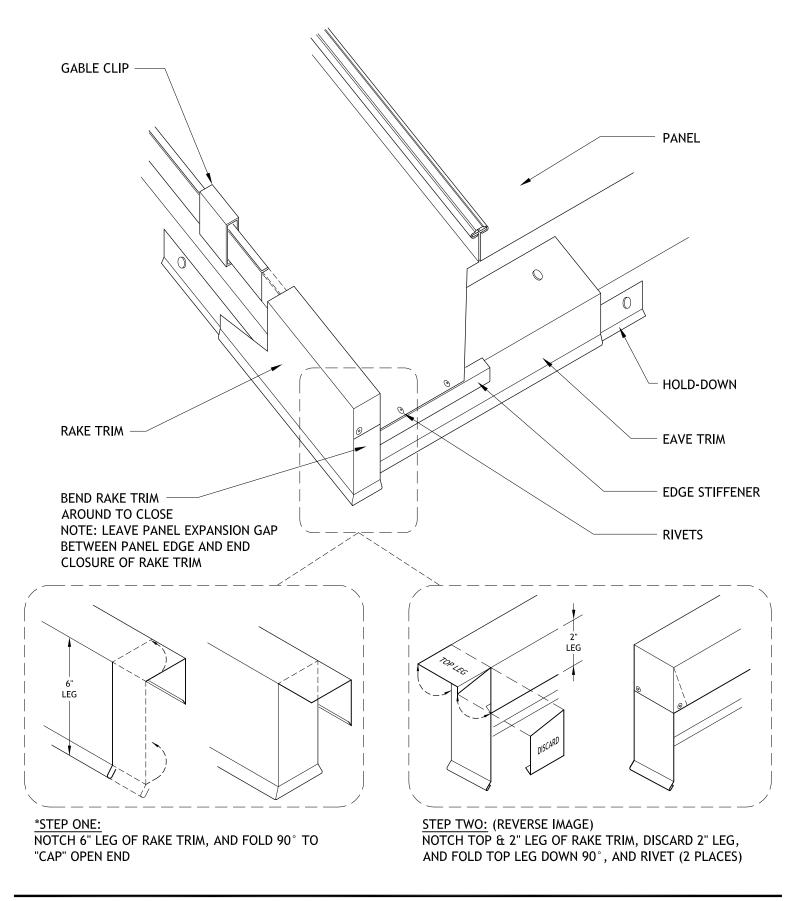
Ridge to Slope Transition
(Detail 2 of 2)





Ridge to Rake Transition

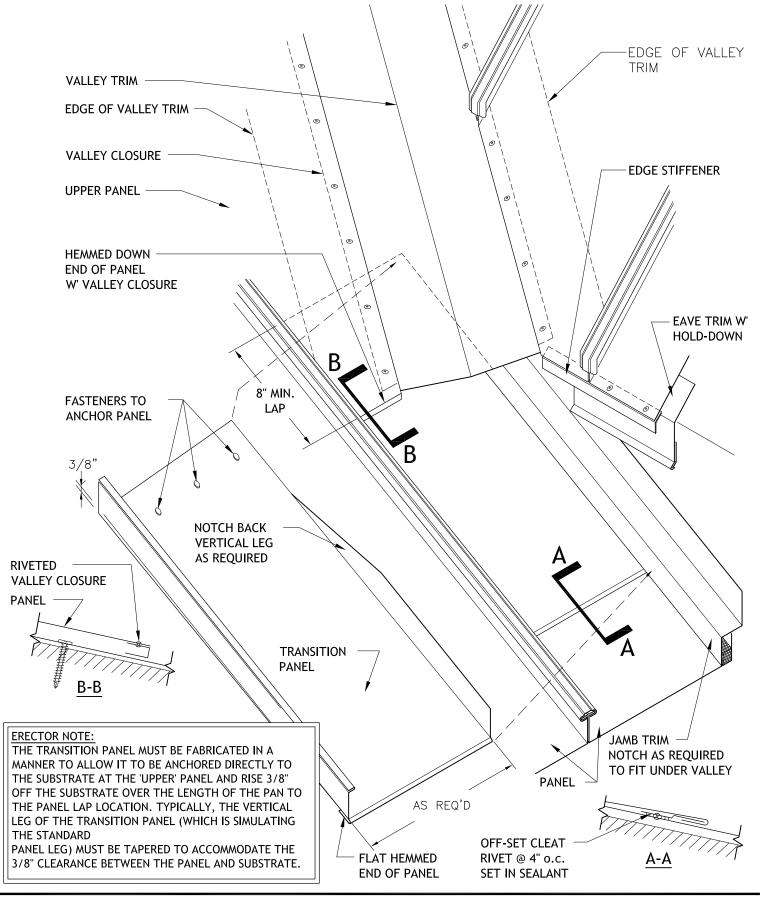
(FT) FIELD TRANSITIONS





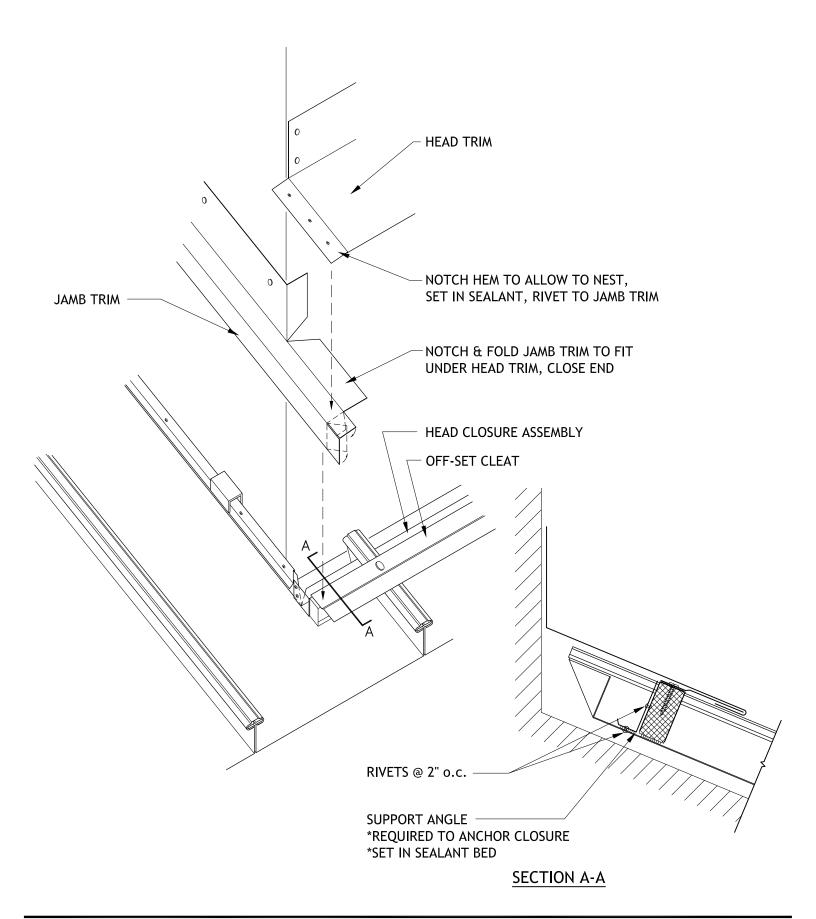


Rake to Eave Transition





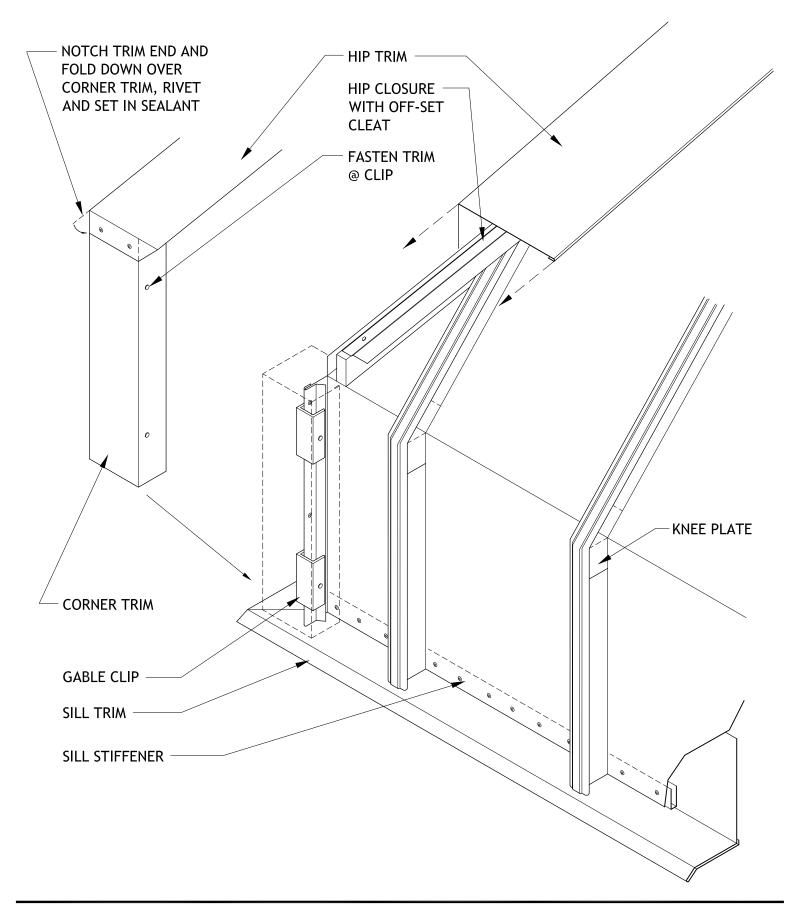
5 Valley to Sloping Jamb Transition (FT) FIELD TRANSITIONS





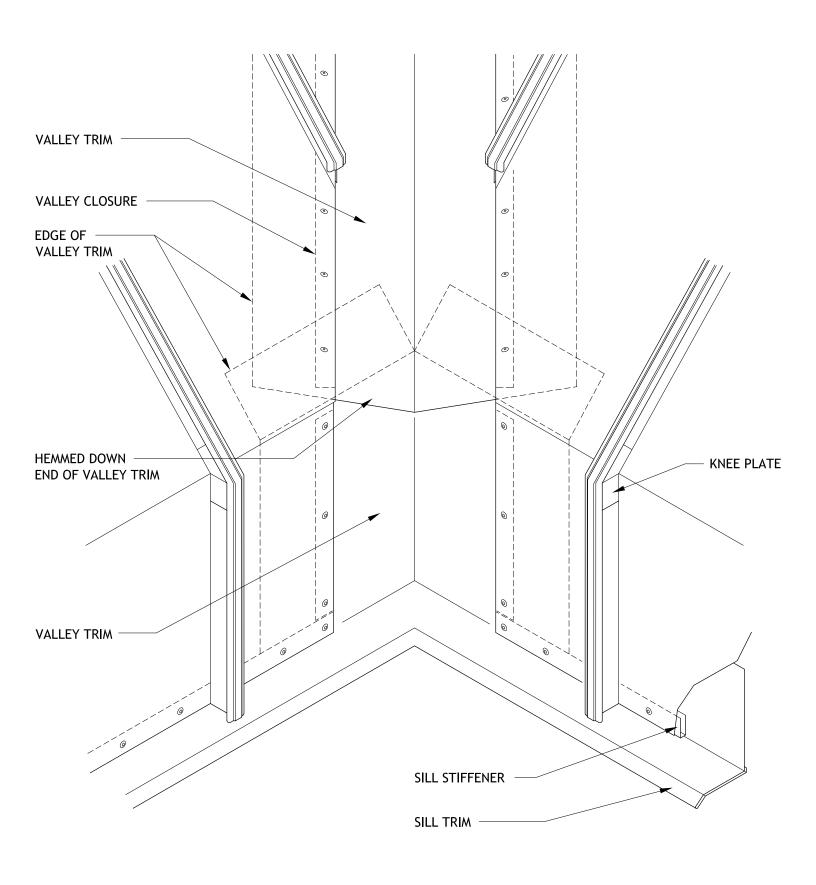


Sloping Jamb to Head Transition



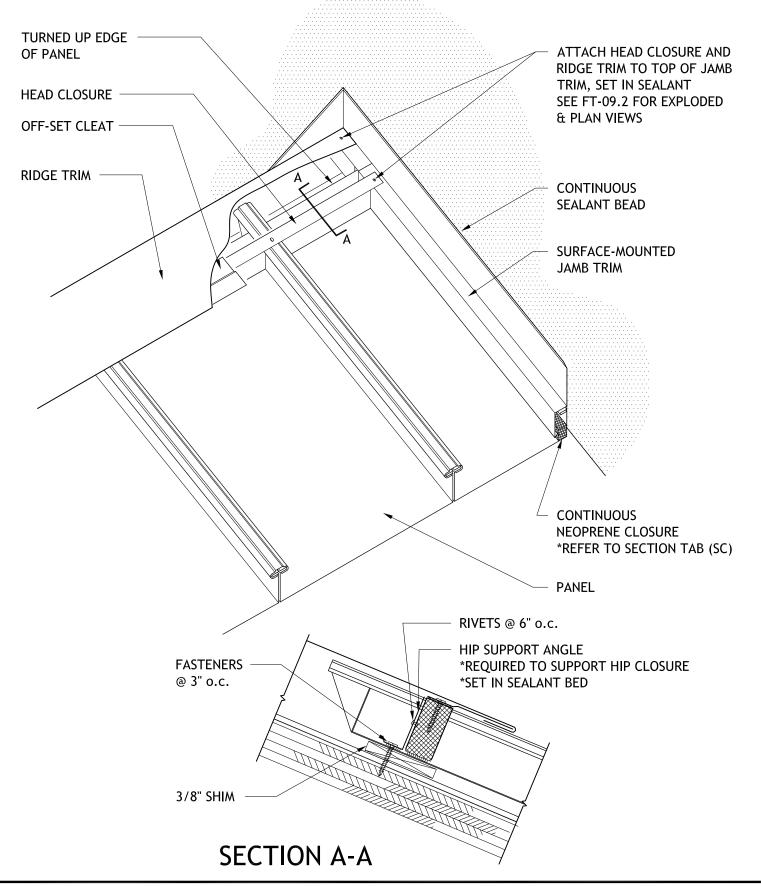


7 Hip to Vertical Trim
Transition
(FT) FIELD TRANSITIONS



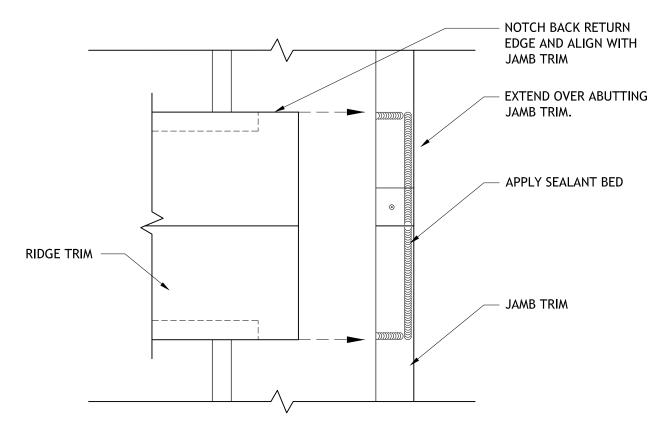


8 Valley to Vertical Trim Transition
(FT) FIELD TRANSITIONS

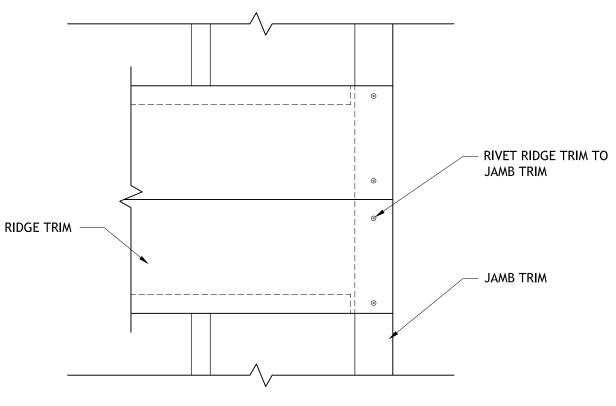




Ridge to Jamb Transition (Detail 1 of 2)



EXPLODED VIEW



PLAN VIEW



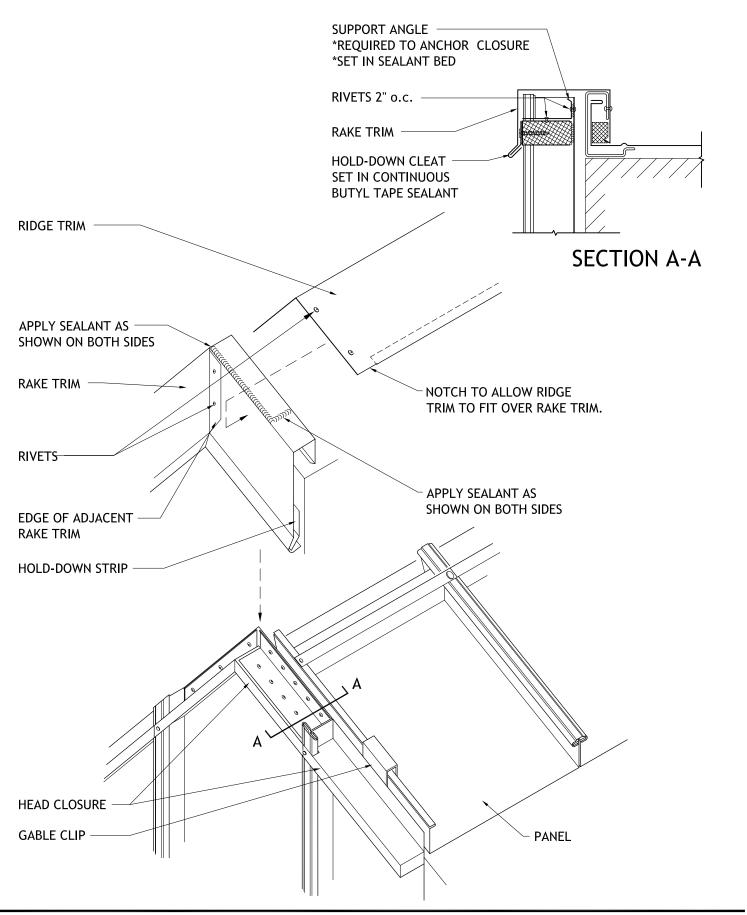
THE GARLAND COMPANY, INC.

GARLAND CANADA, INC.

THE GARLAND COMPANY UK, LTD

9

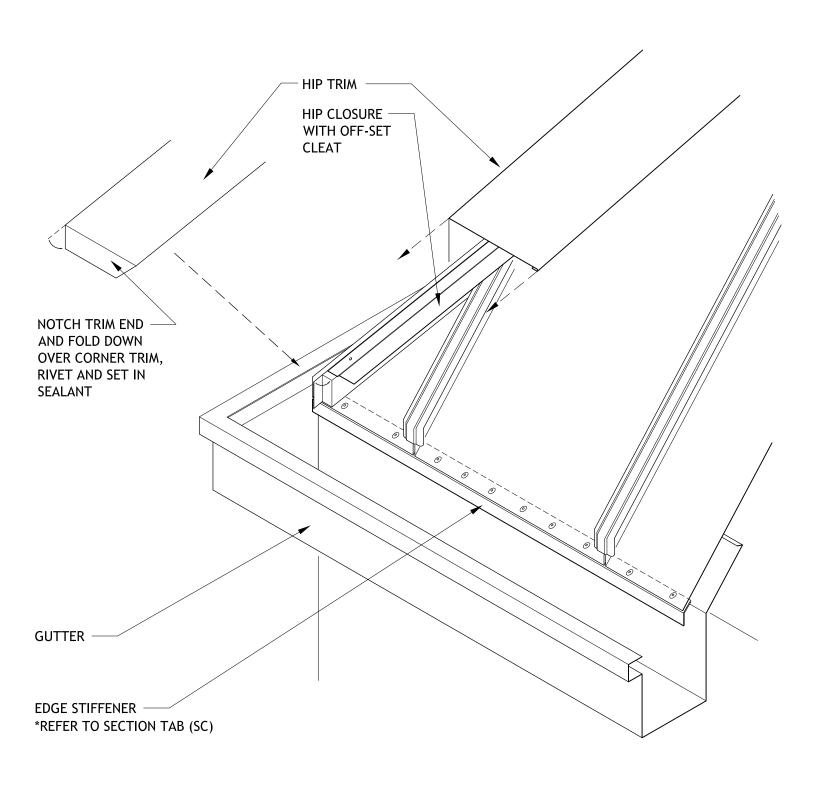
Ridge to Jamb Transition (Detail 2 of 2)





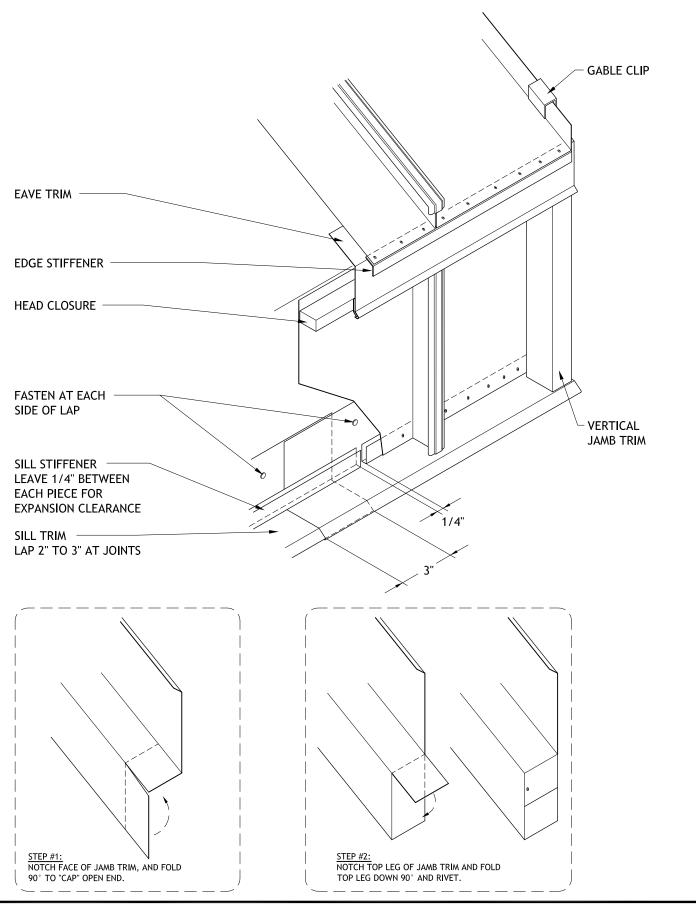
10

Vertical Panel to Rake Transition



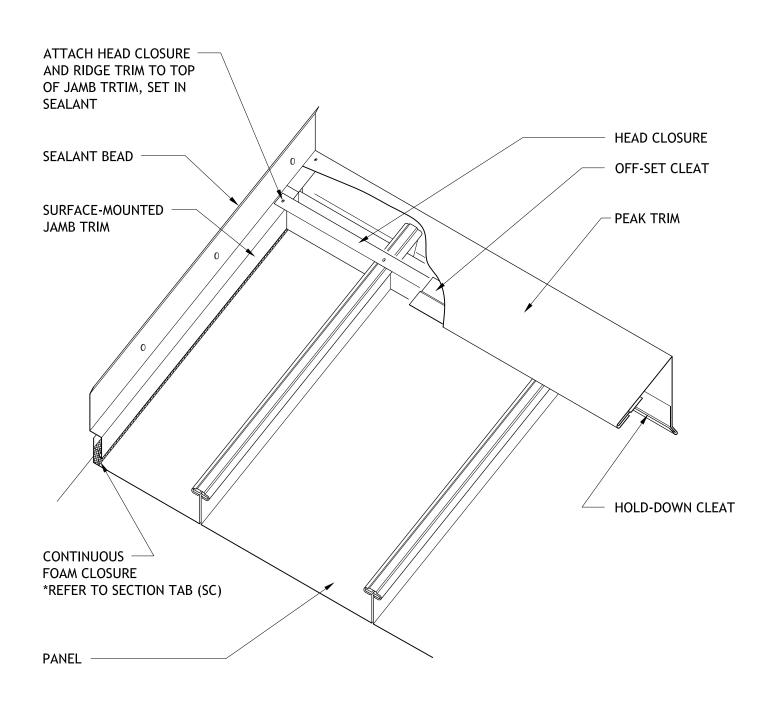


Hip at Gutter
Transition
(FT) FIELD TRANSITIONS





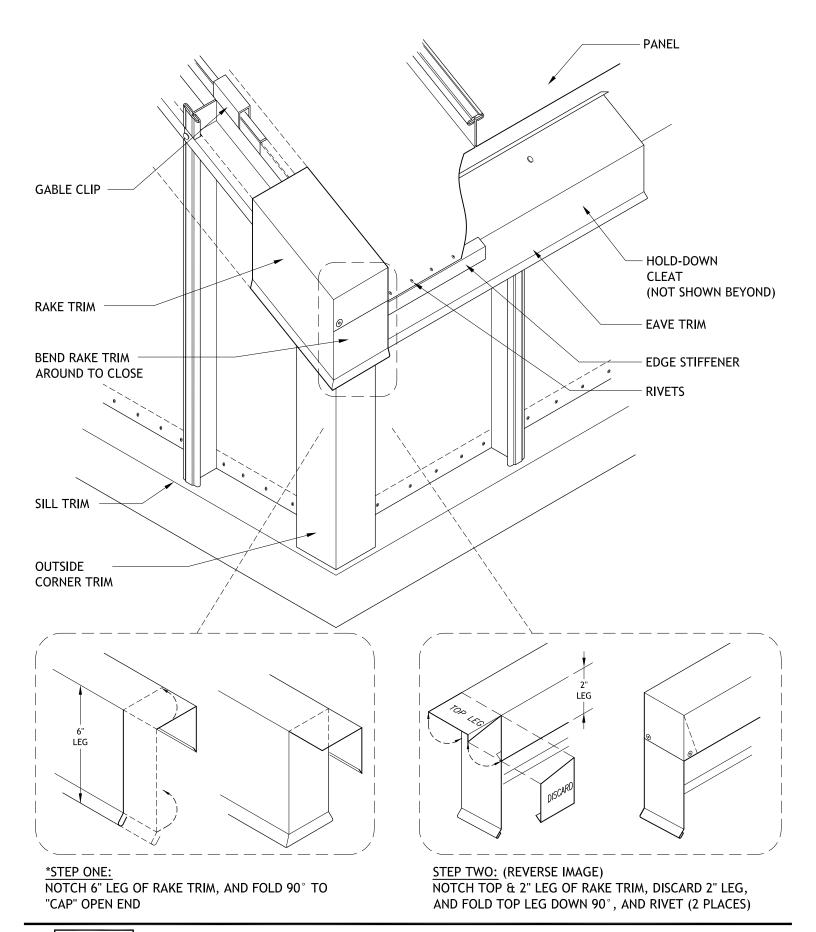
Vertical and Sloping Detail at Jamb Transition
(FT) FIELD TRANSITIONS





(13)

Shed Ridge to Jamb Transition





(14)

Rake to Eave Transition with Vertical Panels