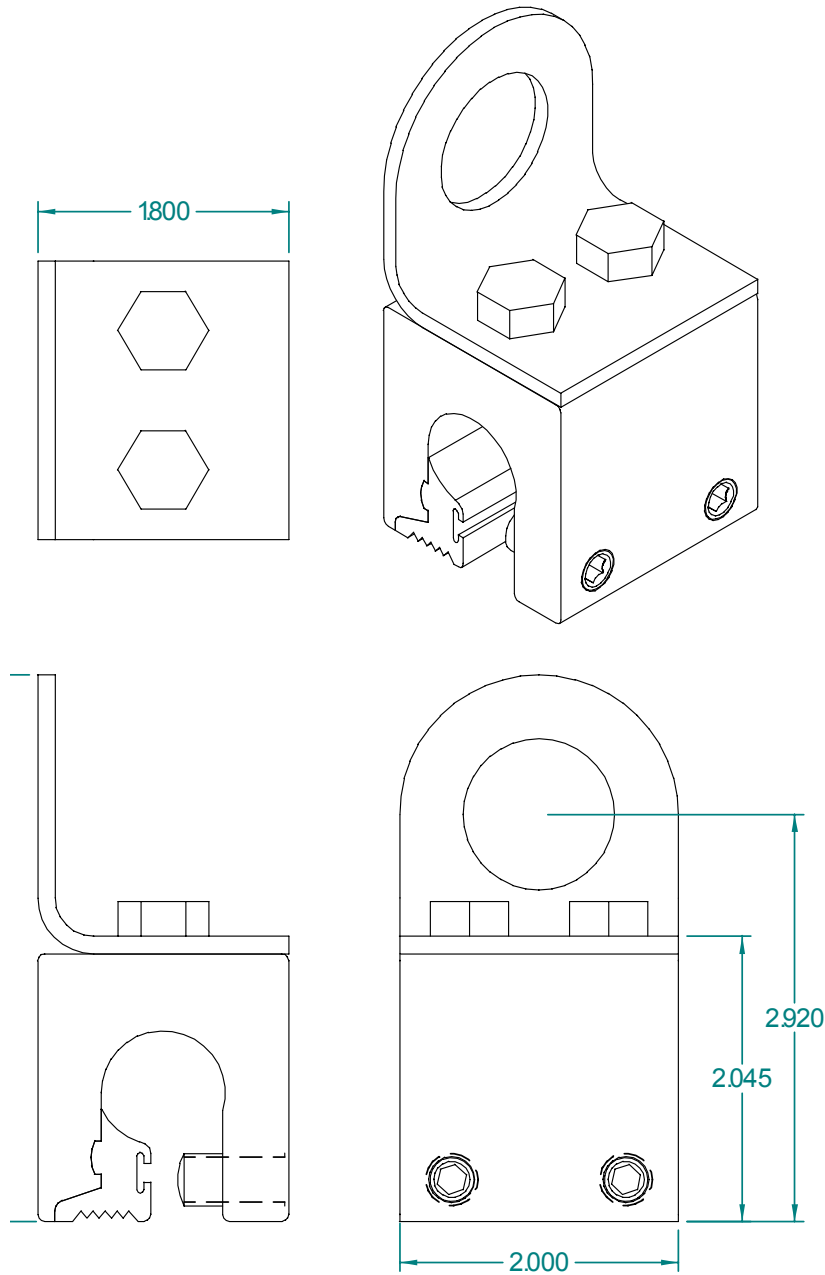




ALPINE SNOWGUARDS

A Division of Vermont Slate & Copper Services, Inc.

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#2000Z2K One Pipe Snowguard Bracket for Standing Seam

Using S-5! Technology

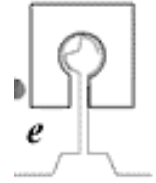
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Installation Instructions for #2000Z2K Pipe Style Snowguards

I. Bracket Installation

4. The S-5-Z2K clamp is designed to engage the seam as shown ("e").
23. ALL 2 SET SCREWS SHOULD BE IN THE SAME SIDE OF THE CLAMP
24. NOTE: Some horizontal seams may require additional hand crimping at the clamp location. Consult your S-5! distributor for crimping tool information.
25. Determine which side of the clamp to load the set screws into, and assemble both set screws into the same side of the clamp, being careful that the bolt hole will be in the desired (upslope or downslope) orientation, with the set screws on the correct side of the seam.
26. Position the clamps appropriately on the panel seam. Using a 3/16" allen-wrench attachment tip for a 1/4" drive screwgun, tighten and retighten set screws as the seam material compresses. (These screwgun tips are available from your S-5! product distributor). On low seam profiles, a 4" bit extension on the screwgun will facilitate this work. Most industrial grade screwguns are rated at 115 inch-pounds tightening torque and will deliver between 115 and -lbs (13-17Nm) at the *highest torque setting*. Please see ultimate load table on the back of this page or attached page for proper screw tensions and caution notes for various panel seams.
27. **CAUTION:** Battery-operated guns may not deliver consistent screw tension. Drywall guns may not deliver adequate tension.
28. Insert the 1" o.d. tubing through the holes in the uprights.
29. See Pipe Coupling Installation instructions for installing the 1" o.d. tubing.



II. Locking Collars, End Caps, and Ice Flags (optional)

4. Locking collars (#65) should be placed over each end of each line of tubing. Center the tubing on the snowguards and tighten the set screw on the collar until it no longer slips.
5. End caps (#56) are installed by pressing the cap into the end of the pipe.
6. Ice flags (#95), if used, should be placed over the top tube so that the long leg rests against the uphill side of both tubes. Use the carriage bolt and nut to hold the ice flag in position.

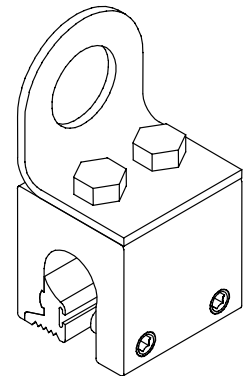
III. Bracket Assembly – Below is an assembly detail for the #2000Z2K brackets.

The S-5! clamp is a handy gadget for a great many uses, but will not perform miracles. PLEASE USE THIS PRODUCT RESPONSIBLY! Any loads imposed on the S-5! clamp will be transferred to the panels. Panels must be adequately attached to building structure to resist these loads. For critical installations, inquire for specific test data of ultimate tensile load on specific panel materials and seam types. When tabled values are used, screw tensions should be verified and factors of safety should be used as appropriate. The manufacturer expresses no opinions as to the suitability of the S-5! for any specific application or project condition.

ALWAYS PROVIDE WORKER FALL PROTECTION WHEN INSTALLING S-5!. THE S-5! CLAMP IS NOT APPROVED FOR USE AS A PERSONAL FALL RESTRAINT DEVICE Copyright © S-5!, Metal Roof Innovations, Ltd

Snowguard Layout for Pipe Style Brackets

- * Contact the manufacturer for detailed layout.
- * Horizontal spacing between brackets should be 48" maximum. This may have to be decreased due to variable conditions.
- * Do not install runs than 100 feet long without a break to allow for thermal expansion.
- * First row of snowguards is installed above outer most wall or support of the building.
- * Tubing is 1" O.D. aluminum.
- * Brackets are made of aluminum and are available in other metals.
- * One, two and three pipe systems are available.



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#2000Z2K Snowguard Specification Sheet

PART 1 - GENERAL

1.1 SUMMARY

A. WORK INCLUDES

1. #2000Z2K Snowguard that does not penetrate the roof using S-5! Technology.
2. Provide appropriate snowguard and fasteners for the roof system.

B. RELATED SECTIONS

1. Section 07600: Flashing and Sheet Metal.
2. Section 07310: Shingles.
6. Section 07320: Roofing Tiles.
4. Division 7: Thermal and Moisture Protection.

1.2 SYSTEM DESCRIPTION

A. COMPONENTS:

4. #2000Z2K Snowguard system consists of snowguard block and flag assembly and set screws.
2. Aluminum tubing.
11. Couplings.
12. End Plugs (optional).
13. Ice Flags (optional).
14. End Collars (optional).

B. DESIGN REQUIREMENTS:

1. Spacing to be recommended by manufacturer or building engineer.
2. Minimum 2 set screws per snowguard.
3. It is important to design new structures or assess existing structures to make sure that they can withstand retained snow loads.

1.3 SUBMITTAL - Submit manufacturer's specifications, standard detail drawings, recommended layout and installation instructions.

1.4 QUALITY ASSURANCE - Installer to be experienced in the installation of specified roofing material and snowguards for not less than 5 years in the area of the project.

1.5 DELIVERY / STORAGE / HANDLING - Inspect material upon delivery and order replacements for any missing or defective items. Keep material dry, covered and off the ground until installed.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Alpine SnowGuards. A division of Vermont Slate & Copper Services Inc., P.O. Box 430, Stowe, VT (888) 766-4273.

2.2 MATERIALS

- A. Snowguard Block and Flag are extruded and milled 6061-T6 and 6005-T5 Aluminum
- B. Tubing is 6061-T6 and 6005-T5, 1" outside diameter and 1/8" wall thickness extruded Aluminum.
- C. Threaded Couplings are 6061-T6 Aluminum 5" long.
- P. End Caps are 302 stainless steel.
- Q. Ice Flags are 6061-T6 Aluminum 3" x _" (as needed).
- R. End Collars are 6061-T6 Aluminum.
- S. Fasteners are 302 or 304 Stainless Steel.

2.3 FINISH - All materials provided mill finish. Coatings available upon request.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Substrate: Inspect roof system to be properly attached and installed to withstand additional loading incurred.
Notify General Contractor of any deficiencies before installing Alpine SnowGuards.

3.2 INSTALLATION

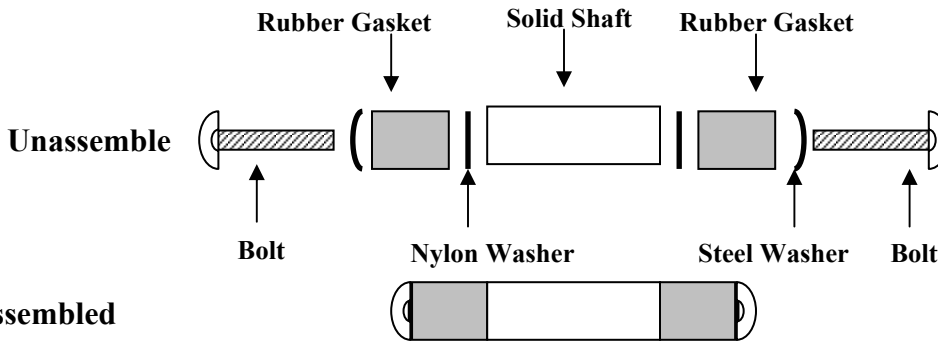
- E. Comply with architectural drawings for location and with Manufacturer's instructions for installation

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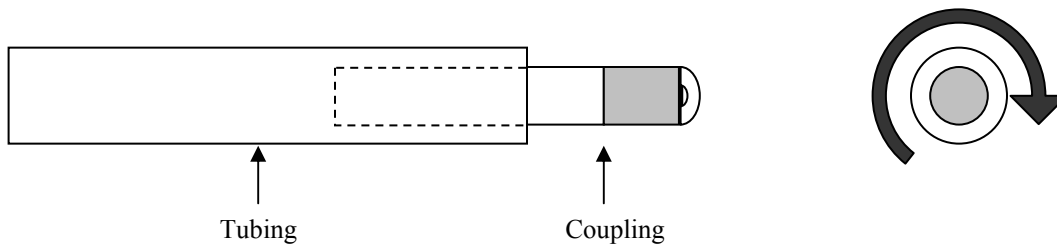


Installation of #86 Pipe Coupling

Couplings come assembled and ready for application. If they come unassembled or loosened during shipping then assemble as per the detail below. **DO NOT OVERTIGHTEN** prior to inserting the coupling into the #75 tubing. Overtightening the bolt will cause the gasket to expand and make installation of the coupling difficult.



1. Insert assembled coupling into the end of one pipe so that half of the solid aluminum shaft is inserted.
2. Begin twisting the exposed half of the coupling in a clock-wise motion until the rubber gasket engages the pipe. Continue to tighten until the coupling can not be easily pulled out of the pipe.



3. Slide next section of tubing over the exposed half of the coupling. Begin twisting the tubing in a clock-wise motion until the rubber gasket engages the pipe. Continue to tighten until the tubing can not be easily pulled off of the coupling.
4. If the system needs to be unassembled, simply turn the tubing counter clockwise until the coupling disengages. Then turn the coupling's solid shaft counter clockwise until it disengages from the tubing.

