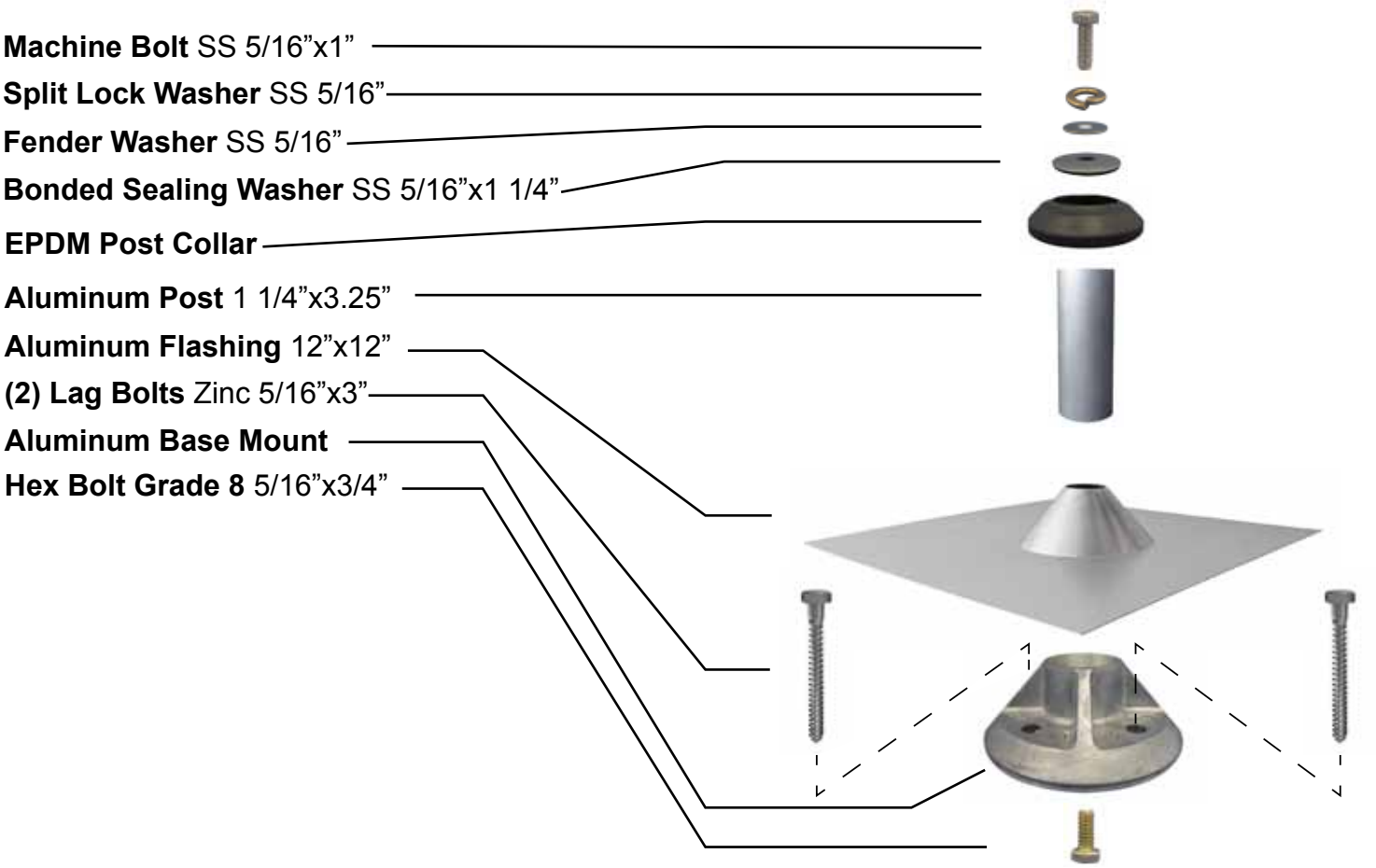
Quick Mount PV®

Your *Solution* in Mounting Products

Solar • H_2O • Conduit • HVAC • Custom

New Roof Composition Mount Specifications - PV -

Quick Mount PV® is an all-in-one waterproof flashing and mount to anchor photovoltaic racking systems, solar thermal panels, air conditioning units, satellite dishes, or anything you may need to secure to a new roof. It is made in the USA of all aluminum and includes stainless steel hardware. It works with all standard racks, installs seamlessly with new roofing, will out live galvanized 2 to 1, and is a better low-profile mount.



Lag pull-out (withdrawal) capacities (lbs) in typical lumber:

		Lag Bolt Specifications	
	Specific Gravity	2/ea 5/16" shaft per 2.5" thread depth	5/16" shaft per 1" thread depth
Douglas Fir, Larch	.50	1330	266
Douglas Fir, South	.46	1175	235
Engelmann Spruce, Lodgepole Pine (MSR 1650 f & higher)	.46	1175	235
Hem, Fir	.43	1060	212
Hem, Fir. (North)	.46	1175	235
Southern Pine	.55	1535	307
Spruce, Pine, Fir	.42	1025	205
Spruce, Pine, Fir (E of 2 million psi and higher grades of MSR and MEL)	..50	1330	266

Sources: Uniform Building Code; American Wood Council
Notes: 1) Thread must be embedded in a rafter or other structural roof member.
2) Pull-out values incorporate a 1.6 safety factor recommended by the American Wood Council.
3) See IBC for required edge distances.

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New Roof Construction

It is a good idea to do a thorough project evaluation prior to your project installation. At this time you should do a layout on the roof confirming everything on the drawing will fit as it is intended. Compair the drawings to what actually exists. Any irregularities should be noted now, so that you can deal with them simply on install day. Confirm that no unplanned utilities will interfere with the solar space.

The standard sequence of operations is that the Base Plates get bolted down after the roof deck has passed its nailing inspection and the first layer of felt paper has been installed. The post and racking hardware should be installed next. Then the roofer roofs the roof and installs the flashing as the courses of roofing procede up the roof, in a manor that leaves the bottom edge of the flashing at a point that brings the water out at, or above, the drip edge of the shingle course below the mount. (see figure A) The solar installer then returns after the roof is completed and completes the rack and panel installation.

It is important to work with the roofer to make sure both the labor and material warranties of the roof remain in place.
The rack to post hardware should be placed in the top of the post for safe keeping.

Existing Roof

Retro-fitting into an existing roof is a simple job and good solution when your AHJ would like two anchors per mount. Simply determine the location over the rafter, cut the roofing material out in the area of the mount, drill and bolt base plate down per picts 3 and 4 on page 4, slide flashing under appropriate shingle (removing any nails that interfere), thread post on per picture 7 (page 4), place collar around post and slide down to flashing per picture 9 (page 4), and install the racking of choice.

Product Selection

The New Roof Composition Mount is intended to fit within most composition and wood shingle roof systems, but not all. Specifically it is sized to fit within a standard 5" to 5 1/2" row or course. To confirm that the Comp Mount will match your roof, measure the course exposure of your roof. The "exposed" surface course height should measure no more than 5 3/4". If it turns out the roof shingles are a non-standard size greater than 5 3/4", the rule is to choose the course of composition to flash that shifts the flashing upslope to make sure the flashing extends under the composition course above the mount plus 1/2" or more of the next course upslope. This insures that any joint in the course over the flashing is flashed. This method will work on exposures of up to 8". If the exposure is greater than 8" Call or email for customizing a solution to your application.

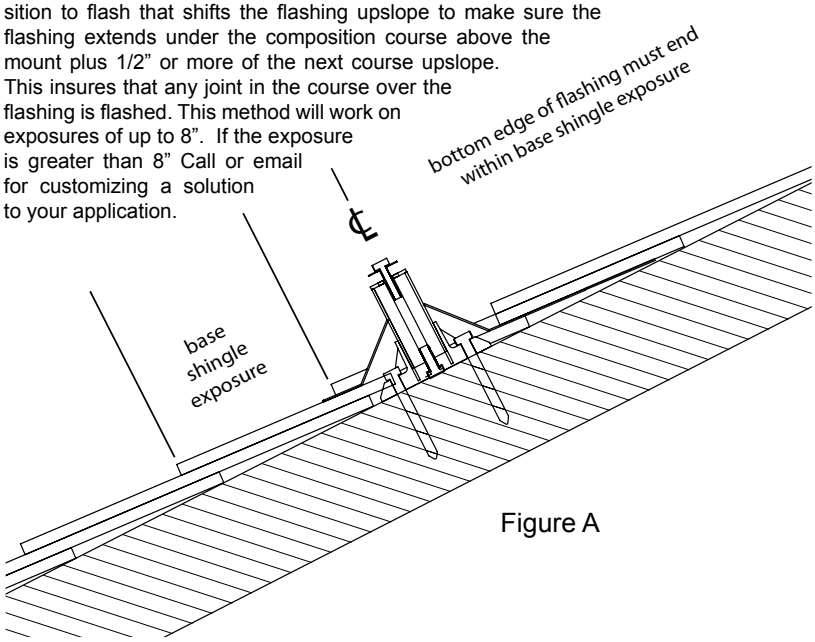


Figure A

How Many Mounts Per Module?

There are two questions that must be asked when adding anything to a roof.

1. Can the roof / building / foundation handle the additional load?
2. What is to keep the new load from blowing away?

It is assumed that a licensed solar installer can answer these questions. If he / she can't, he / she will need to find somebody that can. A licensed engineer is the easiest solution. Some of the racking manufacturers have guides to calculating a code compliant install as well. Many variables must be considered and determined to complete the calculation. The spacing between mounts has the variables of: strength of rail, distance between parallel rails, cantilever of modules over rails, pull out strength of mount, slope of roof, height of roof, wind zone, roof type, structural integrety of roof framing, etc. The only values in the variables above that we can provide is pull out strength and shear of mount. We provide structural test reports on all of our mounts as needed. You will need to gather the rest of the applicable information and do the calculations for your specific project.

Further Resources

In the process of all the research we have done, we came up with what we call the "Wheel of Accountability". It is a graphical look at the many official entities that govern how waterproofing should be done. At our web site you can click on any wedge of the wheel and get the code snippets that pertain to that entity's focus on roof penetrations.

Please don't hesitate to use it to your advantage. And of course if you have any feed back, pro or con, let us have it. Take photos of your jobs using Quick Mount Products and submit them to us at info@quickmountpv.com, we'll put them up in our web gallery. Put Photo Gallery in the Subject line.

Product Includes

The units are sold in 12 packs. Each 12 pack includes the mounting hardware and the mount with flashing to install 12 mounts, with written instructions.

Alternative Attachment Methods

The Composition Mount is intended to be attached into a lumber rafter. Mounts are usually laid out based on the location of the rafters. In some cases it is desired to place a mount where there is no rafter. In this case it is possible to place a block between rafters, then lag into the block. In the case of metal rafters, lumber blocking the rafters is a solution, but should be done per the building's engineer of record.

Shared Rail

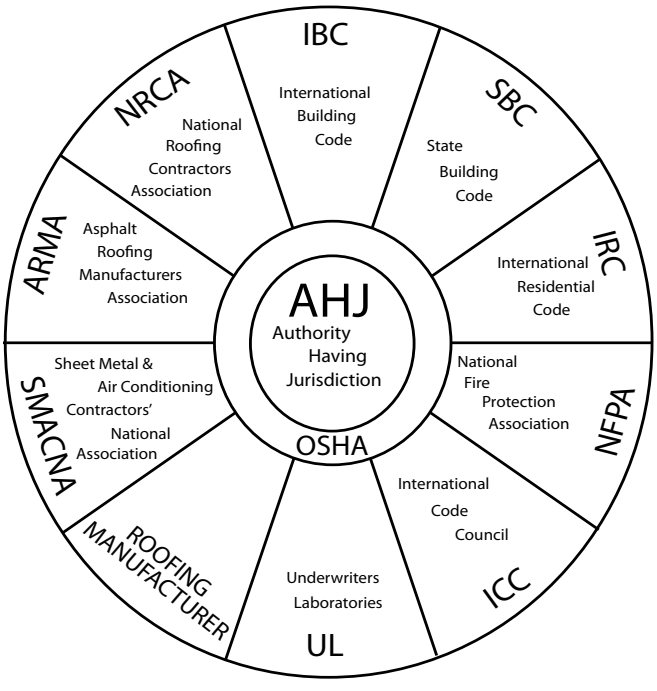
On a shared rail system, where the mounts must be in an exact spot, simply snap lines on the roof deck at the exactly the desired location. The center to center of mounts will transfer up to remain center to center of rail.

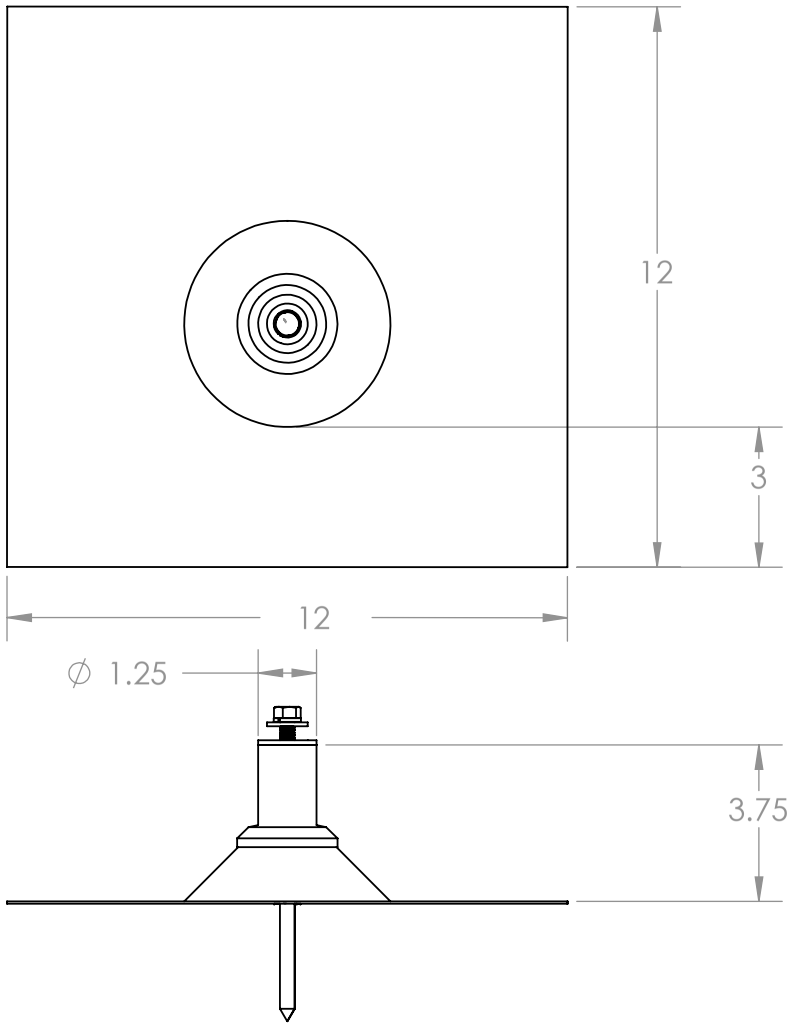
TJI's

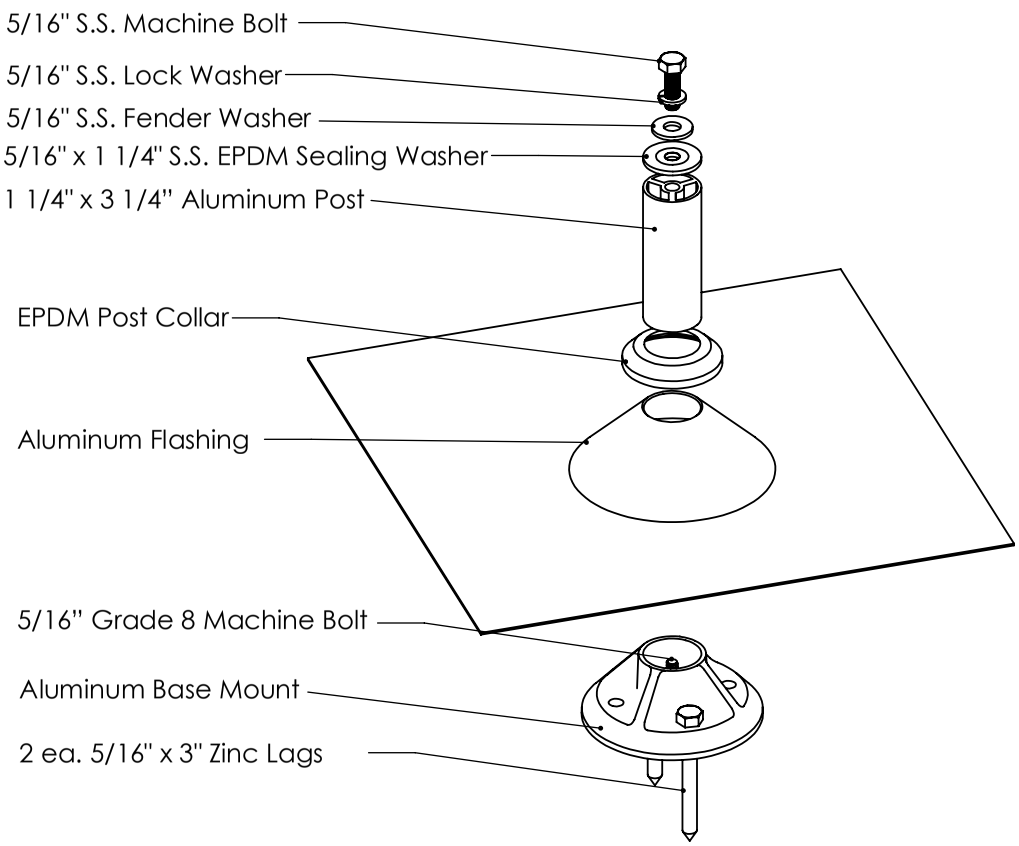
The manufacturer of the TJI should be consulted to determine the fastener type and size. It is important to know what series the TJI is as that determines the height and width of the top coard of the TJI, which further determines maximum fastener diameter.

Sealants

It is important to put a compatible sealant into any and all holes drilled into a roof. Most roofing manufactures list a suggested, approved sealant in their specifications. In the freeze-thaw zones, it is important to follow the manufacturers' rules for freeze-thaw conditions. Use the properly rated sealant for each specific application and condition. Some that may be more appropriate for asphalt/composition roofs include Geocell 2300 and ChemLink M-1 but be sure to do your own research to confirm a compatible and appropriate sealant with the materials you are working with.







UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±.005 ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005	DRAWN		
	CHECKED		
	ENG APPR.		
	MFG APPR.		
	Q.A.		
INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:		
MATERIAL			
FINISH			
DO NOT SCALE DRAWING			

QUICK MOUNT PV

TITLE:

New Roof Comp Mount

SIZE	DWG. NO.	REV
A	QMNC_02	1

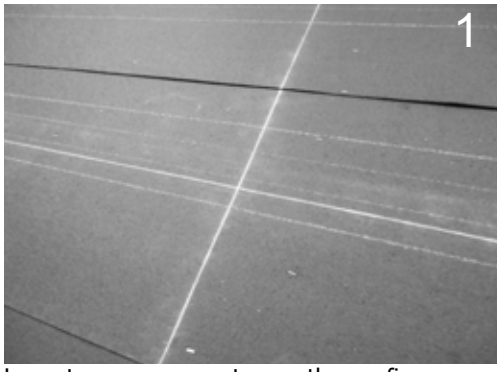
SCALE: 1:8 | WEIGHT: | SHEET 1 OF 1

5 4 3 2 1

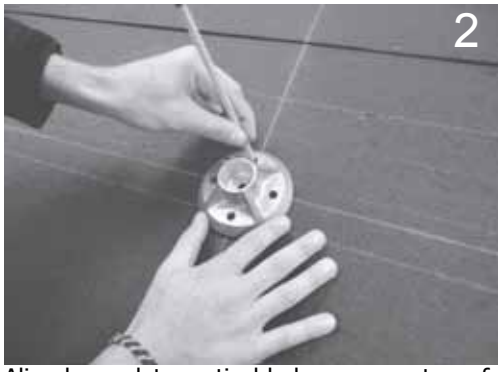
Quick Mount PV®

COMPOSITION MOUNTING INSTRUCTIONS - 5/16" - PV -

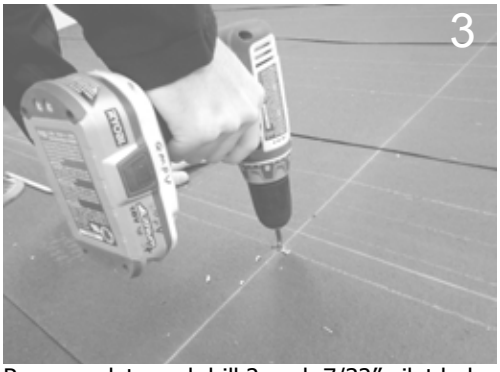
Installation Tools Required: Tape Measure, Roofing Bar, Chalk Line, Stud Finder, Caulking Gun, 1 Tube of Appropriate Sealant, Drill with 7/32" long bit, Drill or Impact Gun with 1/2" Socket.



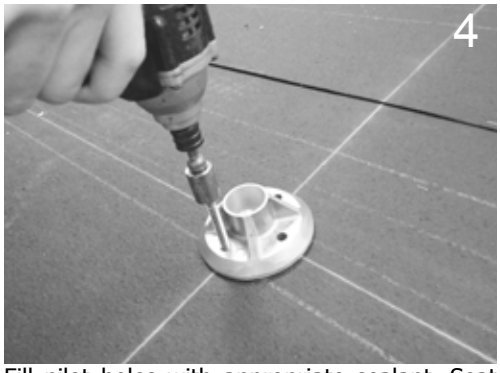
Layout your array out over the roofing paper using a chalk line to mark rafter centers and the rail location center.



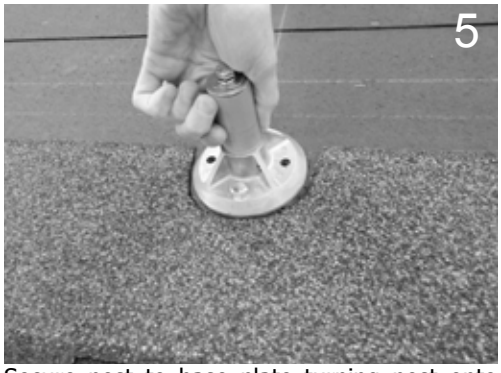
Align base plate vertical holes over center rafter mark and horizontal holes over snapped line. Mark holes for drilling.



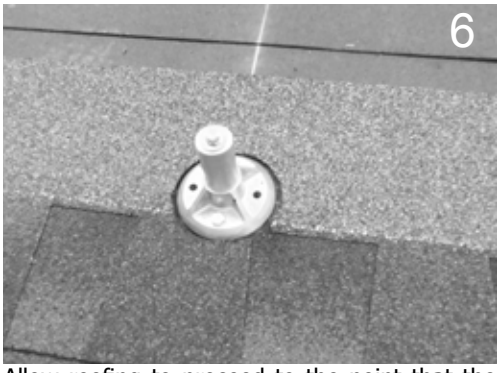
Remove plate and drill 2 each 7/32" pilot holes into rafter. Hold drill square to rafter.



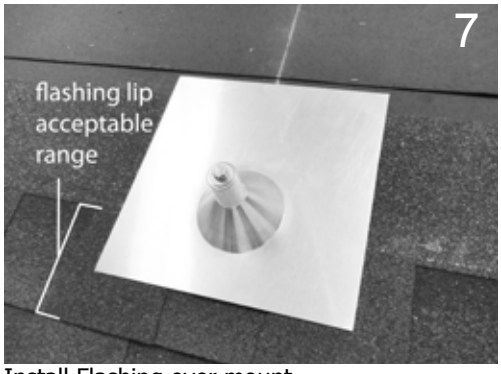
Fill pilot holes with appropriate sealant. Seat grade 8 bolt through bottom of Q base. Place base plate over drilled holes and secure lags in place, with 15 ft/lbs torque.



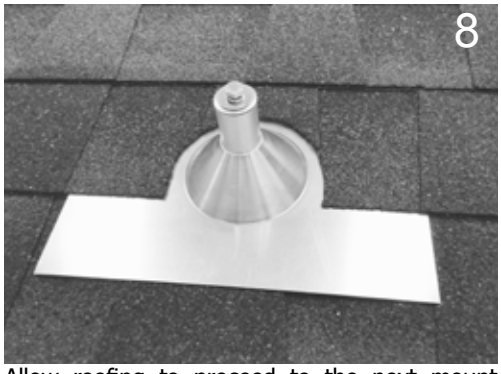
Secure post to base plate turning post onto captive base plate bolt.



Allow roofing to proceed to the point that the flashing should be installed (see figure A).



Install Flashing over mount.



Allow roofing to proceed to the next mount course.

Install counter flashing ring, and rail hardware. Top of Post must be sealed if not installing roof right away.