

REORIENTED TILT MOUNT INSTALLATION KITS for SolarRoofs Tilt Kits 8/05

(Also See Tit Drawings on Second Page and flush mount section in Installation manual)

Some drilling and adjustment may be required. **Note: 10-01 will have two rail and leg sets.**



Tilt and Reoriented Tilt Kit Overview:

A single collector is attached to the roof by 3 mounting rail assemblies consisting of 6 Ell feet, three mounting rails, and 6 mounting Ell brackets (3 top and 3 bottom) with large washers.



The mounting rail's Ell brackets are bolted to the rail with the upward Tab slipping under the trim for an attractive appearance and strength. 3 long "Rail Tilt Ell's" support the collector tilt from the back.

For installing 2 or 3 collectors, a special U shaped clip is used between the collectors to firmly hold them onto the mounting rail. The U clip is usually in 2 pieces for a total of 6 pieces per row.



All holes are predrilled. Three sets of 1/4" nuts, bolts and large washers are supplied. In high wind areas, it is recommended that the top of the clips be tec screwed into the frame

through the glazing with 1 or 2 self tapping color coded screws per side.

Two of the three mounting rail assemblies are installed about 2' in from the ends of the collector with the third approximately in the center. As the rail Ell Feet are attached with lags that go through the roof

sheathing and into rafters, initial locating of collector placement and centering of the lags in rafters is important.

The tabs of the mounting Ell bracket are placed **BETWEEN** the frame and the collector trim, then secured with two 1/4" painted hex head self tapping "Tec" screws mounted horizontally per tab just above the bottom crease on the trim, be careful to not miss the tab as it is hidden under the trim.



Reoriented Tilt Mount Installation Instructions:

Important: (To allow for adjustments, do not fully tighten lags and bolts until assembly is finished)

1. **Locate the rafter(s) to be used for the front of the collector.** Mark the center of the rafter with chalk. Mark a point 2 feet down from the top point of where you want to locate the front lower edge of the collector (for the upper rail Ell Foot), mark another point 4 feet down from that (for the center rail Ell Foot), and another point 4 feet further down (for the bottom Ell Foot).

TIP: You will be assembling rails to the front Ell Feet first. It is usually easiest to fully assemble the collectors on the rails flat on the roof with unions in place and collectors fully "tec" screwd in place.

Then bolt the rear legs to the rear Ell feet, or to the ends of the rail, lift the whole assembly up and move the legs up, center leg first, under edge of collector to hold up the array, then the ends and bolt to the rails one by one.

2. Drill the lag holes (either using the lag itself or a 5/32" drill) for the 3 "Lower Rail Ell Feet" into the center of the rafters, fill the holes with caulk. Place the Lower Rail Ell Feet over the holes and install the lags with small washers in place. Do not fully tighten the lags so the Lower Rail Ell Feet can be adjusted.

3. Bolt the 3 - 1" square tube rails to the 3 Lower Rail Ell Feet. Bolt the 6 rail Ell (collector) mounting brackets with **large washers** to the ends of the square tube rails as shown.

4. Mark the set of rafters 4' directly behind the front Feet for the 3 "Upper Rail Ell Feet". As before, pre-drill the lag holes, insert caulk and install the remaining 3 "Ell" feet with lags and small washers.

5. The "Rail Tilt Ells" are now loosely bolted with small washers to the end of the rail.



6. Position the first collector in place with collector "Ell" mounting bracket tabs inserted under the trim. The small bend at the bottom of the trim makes inserting the mounting "Ell" bracket easy. If a two collector kit, place the three 2 piece center U clips loosely in place over their rail bolt hole locations and bolt in with large washer (**you may need an**

extension to your driver to get between the collectors). Adjust the collectors and connect the compression unions between the collectors so alignment is assured and then lightly tighten down all rail bolts.

Be sure to have the collector unions in place BEFORE tightening any bolts or putting any tec screws in!

7. After installing the collector with the mounting Ell bracket tabs inserted between the trim and frame, it is time to secure the collector to the Ell brackets with the color coded self tapping 1/4" tec screws. Be sure to press the collector all the way down on the mounting rail and secure the collectors at each Ell bracket with two 1/4" self tap screws horizontally and evenly just above the small bend in the trim to secure all brackets. **Be sure to catch the tab with both screws!** (see color pictures)

8. Lift the back of the collector assembly up so the 3 "Rail Tilt Ells" go into place. Bolt the "Rail Tilt Ells" to the 3 Ell feet. Tighten all lags and bolts for final tilt kit assembly.

