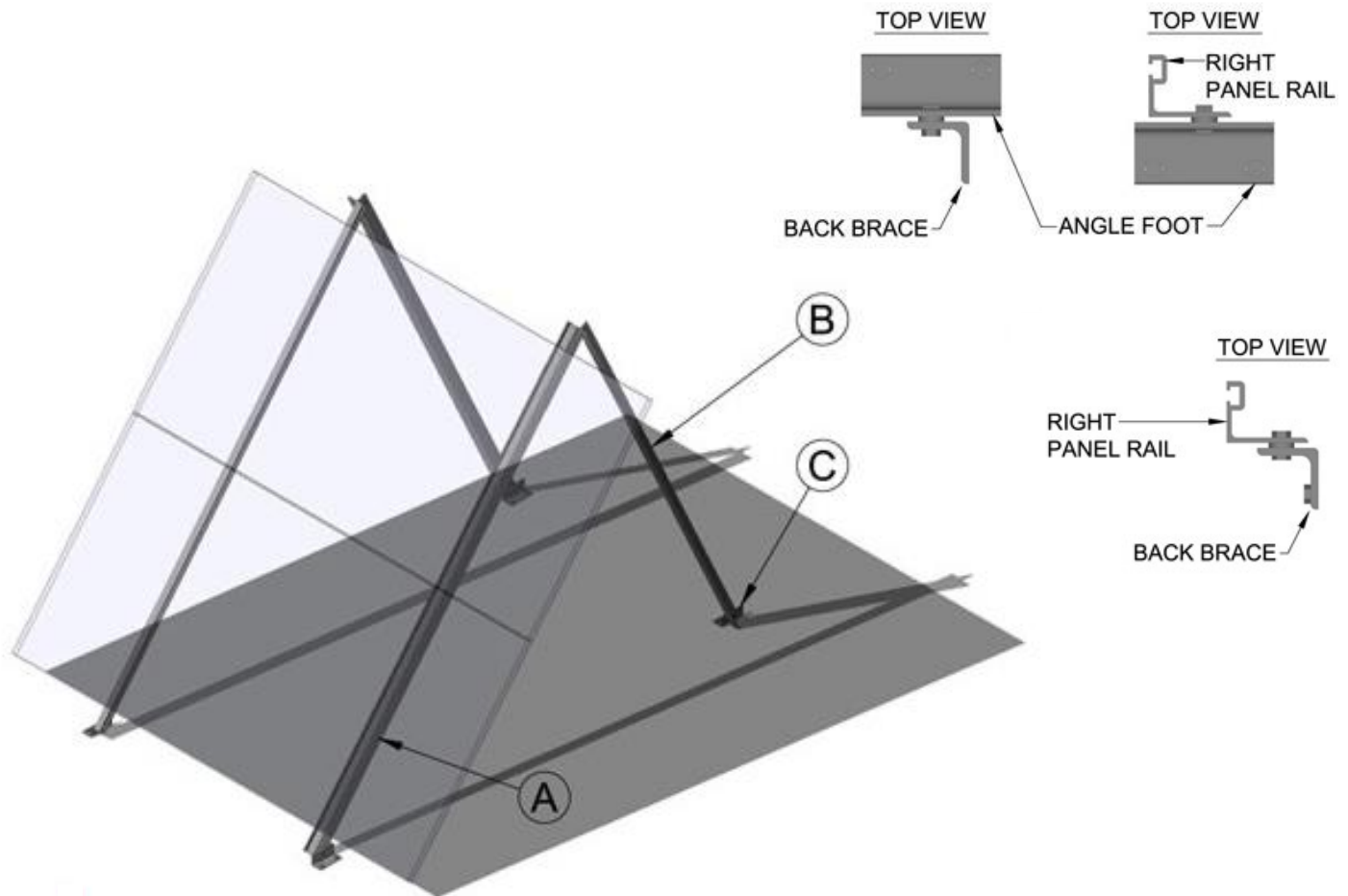




## Roof / Wall / Ground Mount Assembly Instructions



### Universal S-Rail

- A. **ALUMINUM RAILS:** UNIVERSAL T-SLOT ANGLE EXTRUSION 2" X 1½" X 1/8" or 3" X 1½" X 3/16" (SIZE DEPENDENT ON MODULES USED) OR PUNCHED ALUMINUM ANGLE – 2 PLACES
- B. **BACK BRACES:** 6061 – T6 ALUMINUM ANGLE – 2 PLACES
- C. **MOUNTING FEET:** 6061 – T6 ALUMINUM ANGLE BRACKET – 4 PLACES

**Note:** By changing the position of the back braces and rails you can move your array more vertical or horizontal.

Rev. 12/17



## COMPONENTS FOR THIS MOUNT

- (2) Aluminum Rails**
- (2) Aluminum Braces**
- (4) Mounting Feet**

**Hardware**

Per each two panel mount:

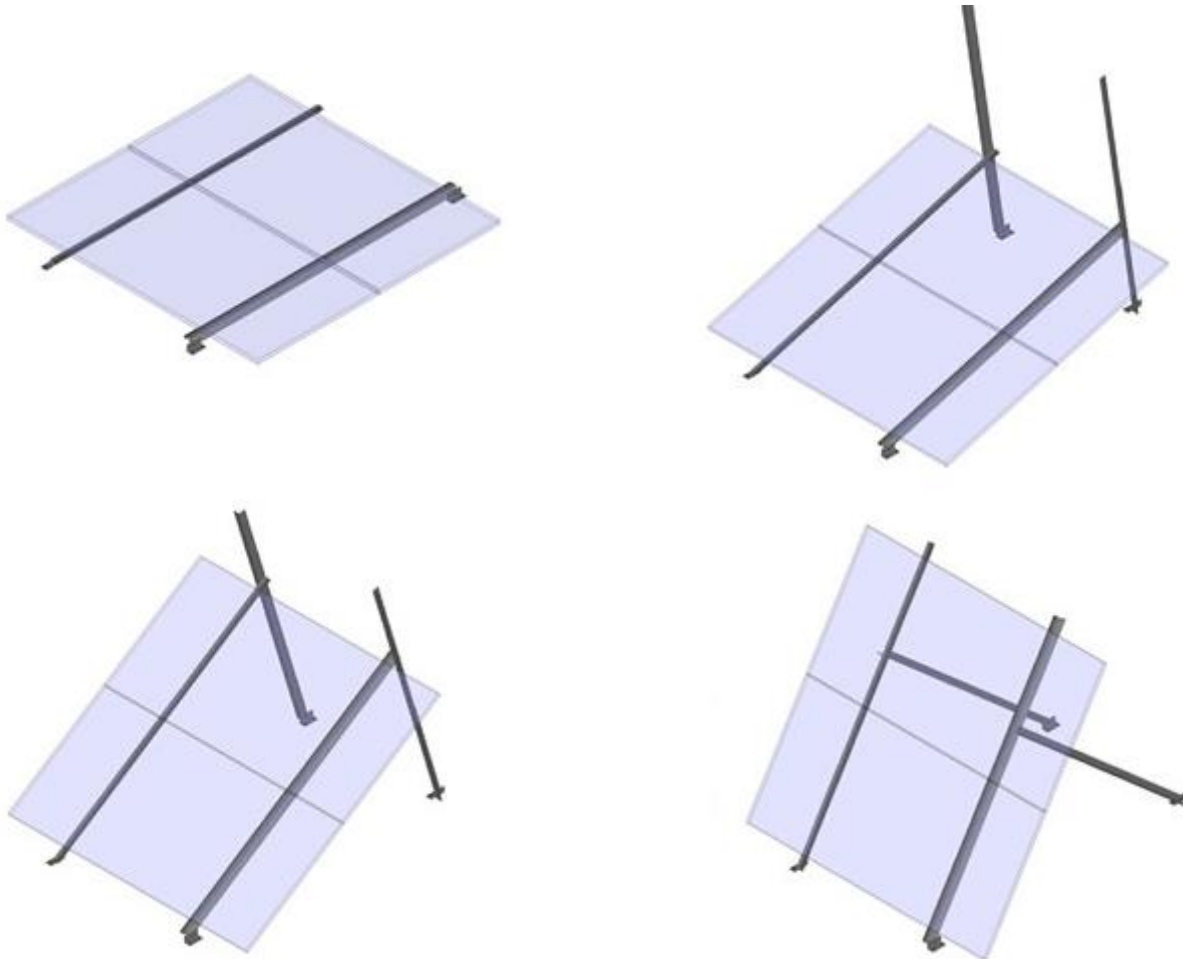
15 – 1/4" x 5/8" Stainless Bolts

15 – 1/4" Stainless Flange Nuts

2 for feet to rail bottom      2 for brace to rail  
 2 for feet to brace bottom      8 for two panels to rails  
 1 extra

**NOTE:** You will need to purchase whatever fasteners are appropriate for attaching the mount to your particular roof or other mounting surface.

## SOME OF THE DIFFERENT ADJUSTMENT ANGLES



## INSTALLATION NOTES

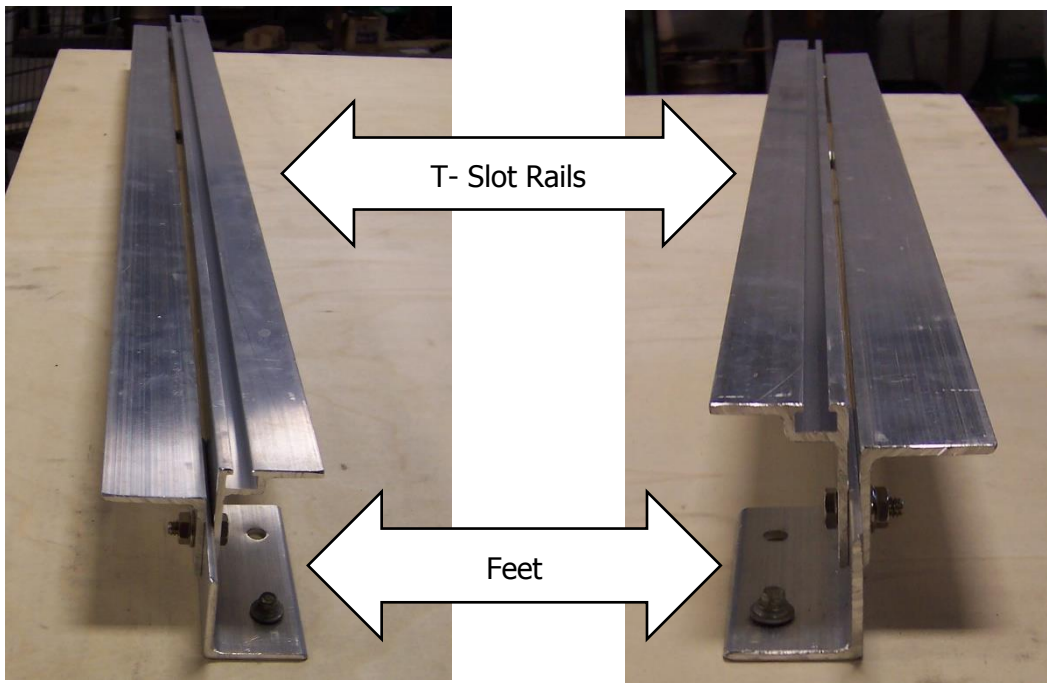
In the northern hemisphere, this mount should be oriented so the panels face as close to due south as possible. In the southern hemisphere, facing north.

This mount is made to attach to a roof, side wall, or flat horizontal surface. If the mount is to be attached to a roof, lag bolts may be used if at least 4" of the 5/16" lag bolts on each mounting foot are screwed into a solid wood member. For side wall installations, the upper mounting feet must be attached with bolts that go completely through the wall or if 5/16" lags are used, they should be screwed into at least 3" of solid wood, e.g. into a 2" X 6" wall stud. If mounted to the ground, it must be similarly fastened to a concrete foundation, or wood deck.

When mounting on a roof top it is desirable to install the bottom of the panels near the ridgeline. For optimum southern exposure this ridge should run east – west. If you mount the panels on the southern roof they may not lie down flat enough in the summer for a perpendicular orientation to the sun. This is particularly true on steep roofs.

## ASSEMBLY INSTRUCTIONS

If you have someone to help you lift the assembled mount into place, go ahead and fasten the panels onto the rails before installation. Bolt the first panel onto the two T-Slot rails placing it on the end of the rails marked TOP. Use the mounting holes on your panels which will allow you to have the best access to the wiring junction boxes on the back. Hold this first panel 2" down from the top end of your slotted rails. This will allow the back brace to stick past the rails when the array is laid down flatter as in summertime orientation. Attach this first panel with the stainless bolts provided, finger tighten only. Attach the next panel below the first one. There should be approximately 1/4" between panels.



The above picture shows the feet orientation (note that they all face each other) and the rail/brace/foot attachments (the rail is on the inside of the foot and the brace is on the outside).

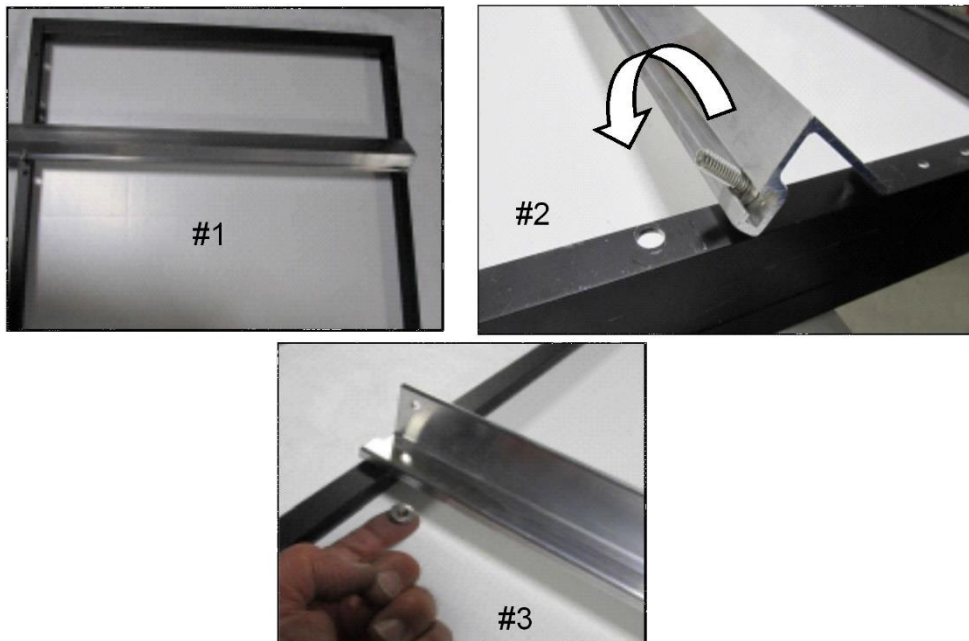
When all the panels are on the rails there may or may not be some excess rail left, depending on the brand of PV you are using. This excess may be trimmed off, or can be left at the bottom of the array to create more distance between it and the mounting surface to allow for snow build. Square up the panels so the sides are straight, then tighten the bolts with a wrench.

Fasten braces to the back of the panel rails, and then attach the feet to the bottom of the back braces and panel rails.

Lift the whole unit into place and attach with lags or bolts.

If you are working alone or the installation is somewhat awkward, you may want to install the mount first and then add the modules at the end.

#### INSTRUCTIONS FOR ATTACHING SOLAR PANEL TO MOUNTING RAILS



Lay T-Slot rails across the short axis of the panel as shown in Photo #1. Slide stainless bolts into T-slot of rail and position so they are opposite to the mounting holes on the frame of the panel as shown in Photo #2. Then roll the rails over so the bolts slip into the holes on the panel frame. Place the flange nut on your finger with the flange UP and thread onto the bolt from underneath as shown in Photo #3. Finger tighten.