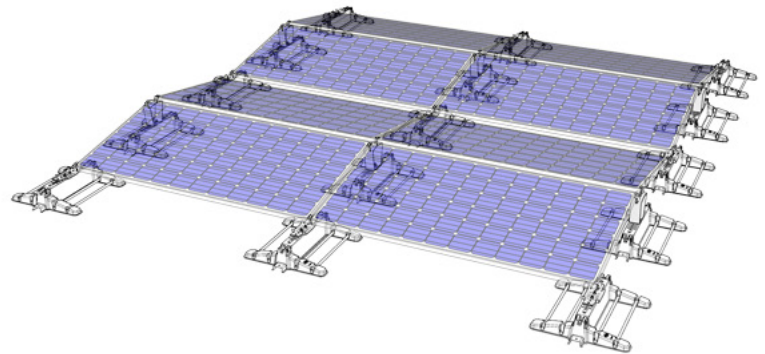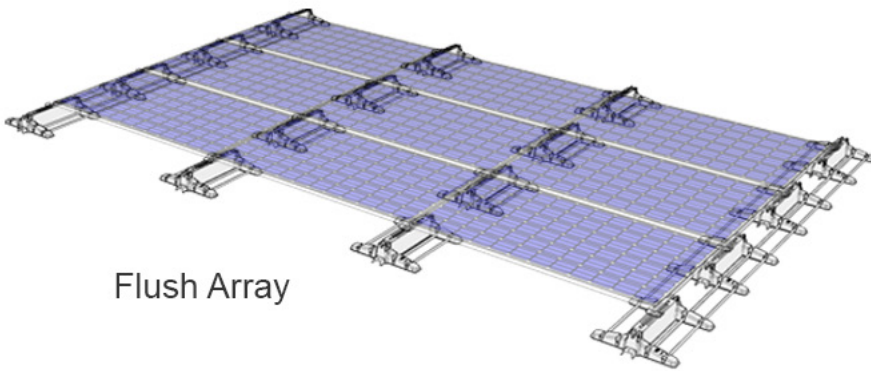Tilted (5° & 10°) Array

Dual Tilt Array

Flush Array

# POWER MAX™ Accessories
## Tilted (5° & 10°), Dual Tilt, & Flush Arrays
## Installation Guide

SP3470

## Table of Contents

# Installing Snake Tray® - *Cable Runs*

## Tilted (5° & 10°) Array - Utilizing PLP's Z-Bracket Kit



Front Bracket
Snake Tray Bracket
Z-Bracket Kit
Snake Tray

**Note: Ballast not shown for clarity.**

The Z-Bracket Kit may be secured to either the Front Bracket (as shown) or the Rear Bracket using the existing Flange Nut. **Torque to 15 ft.-lbs.**

Using the hardware provided in the Z-Bracket Kit, attach the Snake Tray Bracket to the Z-Bracket. Tighten securely.

Attach the Snake Tray to the Bracket using 5/16 x 3/4" Hex Screw, Flat Washer and Flange Nut. Tighten securely.

For more on Snake Tray see: snaketray.com

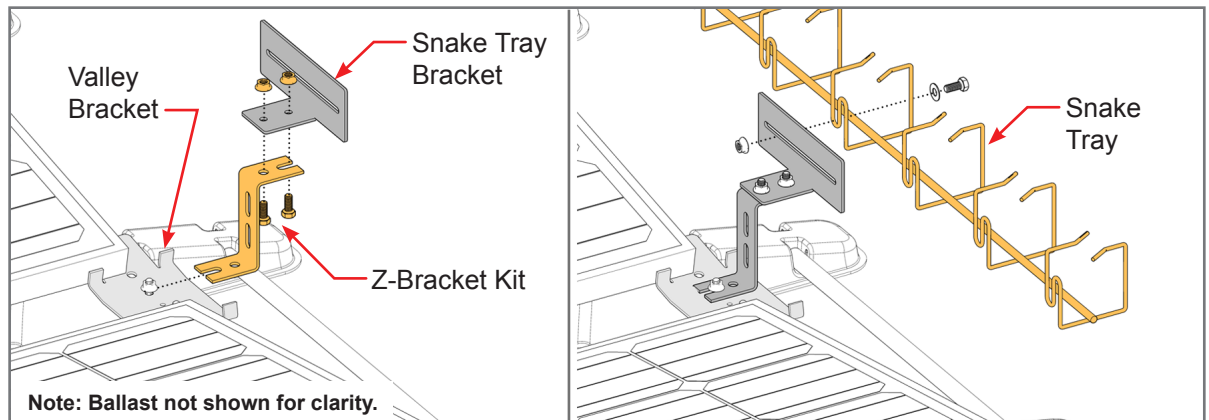## Dual Tilt Array - Utilizing PLP's Z-Bracket Kit



Valley Bracket
Snake Tray Bracket
Z-Bracket Kit
Snake Tray

**Note: Ballast not shown for clarity.**

The Z-Bracket Kit is secured on top of the Valley Bracket as shown using the existing Flange Nut. **Torque to 15 ft.-lbs.**
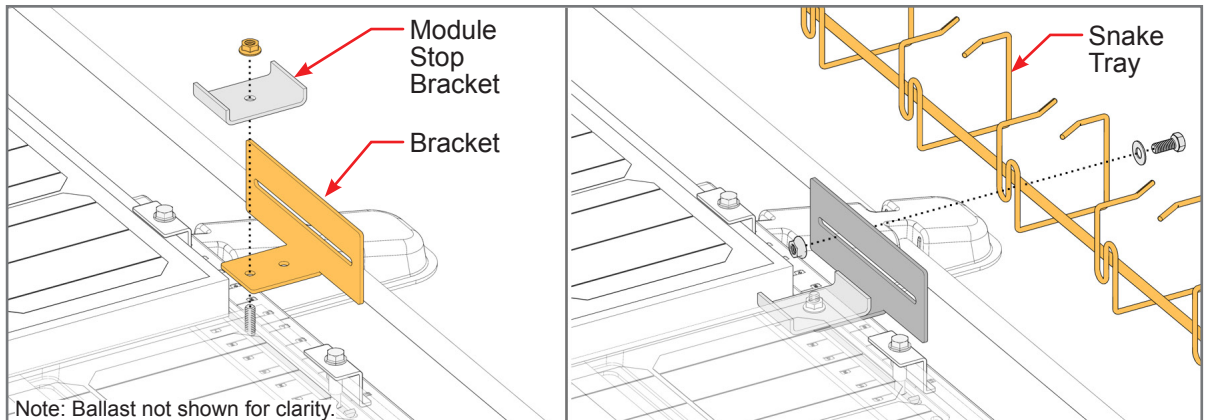
Using the hardware provided in the Z-Bracket Kit, attach the Snake Tray Bracket to the Z-Bracket. Tighten securely.

Attach the Snake Tray to the Bracket using 5/16 x 3/4" Hex Screw, Flat Washer and Flange Nut. Tighten securely.

For more on Snake Tray see: snaketray.com

Snake Tray® is a registered trademark owned by Cable Management Solutions

![Preformed Line Products logo] **PREFORMED** LINE PRODUCTS

# Installing Snake Tray - *Cable Runs (cont.)*

## Flush Array



Note: Ballast not shown for clarity.

The Bracket is secured to the Tray, under the Module Stop Bracket using the existing Flange Nut. **Torque to 15 ft.-lbs.**
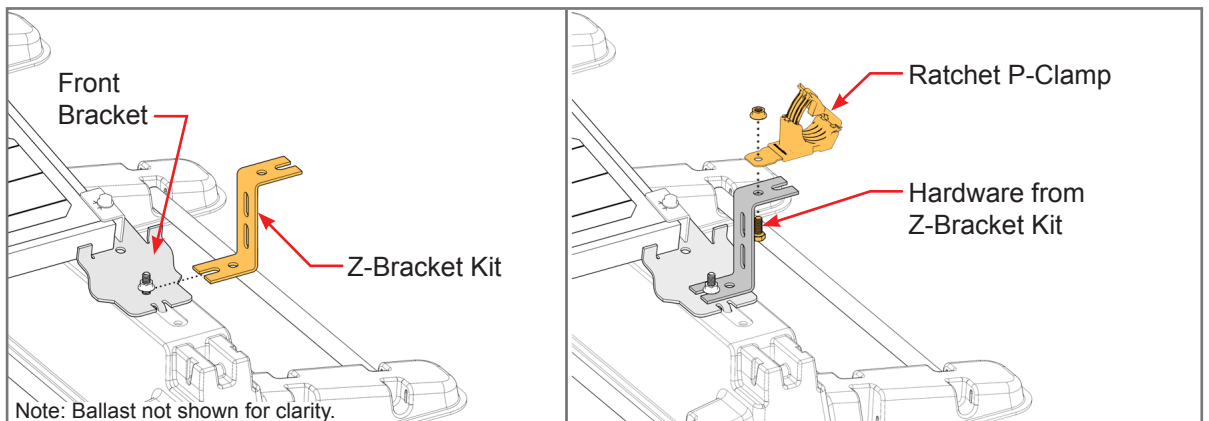
Using the hardware provided in the Bracket Kit, attach

the Snake Tray to the Bracket using 5/16 x 3/4" Hex Screw, Flat Washer and Flange Nut. Tighten securely.

For more on Snake Tray see: snaketray.com

# Installing Ratchet P-Clamps - *Conduit & Cable Runs*

## Tilted (5° & 10°) Array - Utilizing PLP's Z-Bracket Kit



Note: Ballast not shown for clarity.

The Z-Bracket Kit may be secured to either the Front Bracket (as shown) or the Rear Bracket using the existing Flange Nut. **Torque to 15 ft.-lbs.**

Using the hardware provided in the Z-Bracket Kit,

attach the Ratchet P-Clamp to the Z-Bracket. Tighten securely.

For more on Ratchet P-Clamps see: hellermanntyton.us

POWER MAX™ Accessories Installation Guide, Tilted (5°, 10°), Dual Tilt and Flush Arrays

# Installing Ratchet P-Clamps - *Conduit & Cable Runs (cont.)*

## Dual Tilt Array - Utilizing PLP's Z-Bracket Kit



The Z-Bracket Kit is secured on top of the Valley Bracket as shown using the existing Flange Nut. **Torque to 15 ft.-lbs.**
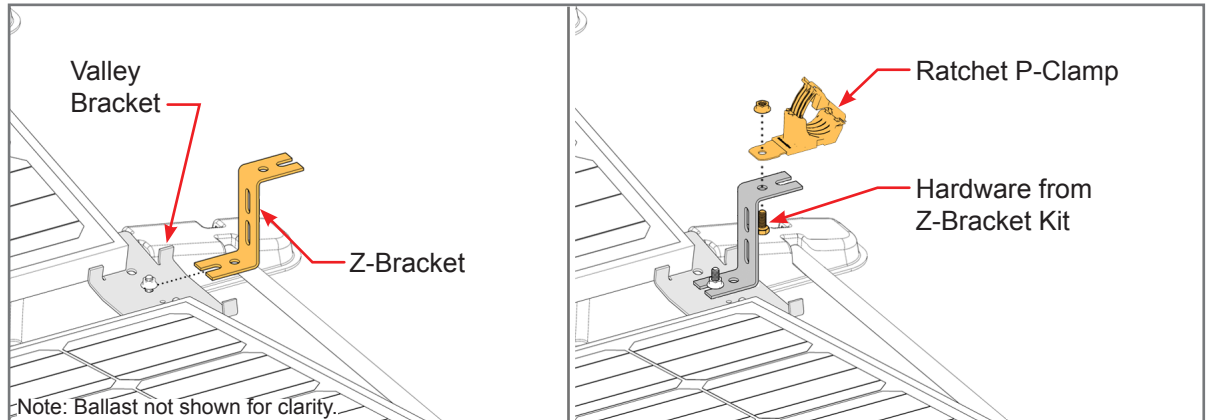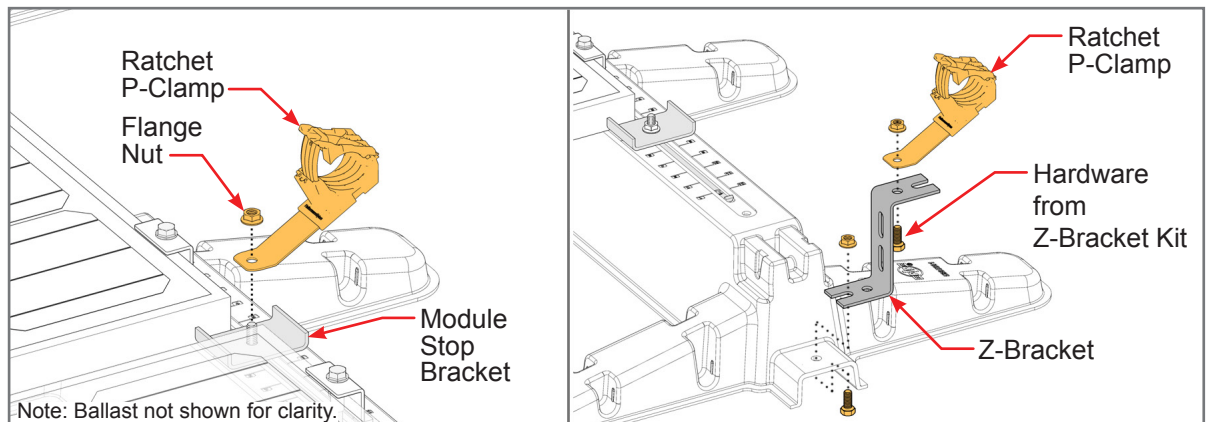
Using the hardware provided in the Z-Bracket Kit,

attach the Ratchet P-Clamp to the Z-Bracket. Tighten securely.

For more on Ratchet P-Clamps see: hellermanntyton.us

## Flush Array - Utilizing PLP's Z-Bracket Kit



Two options are available for attaching the Ratchet P-Clamp, either to the Module Stop Bracket (above left) or the Tray (above right).

If attaching to the Module Stop Bracket, secure the Ratchet P-Clamp using the existing Flange Nut. **Torque to 15 ft.-lbs.**

For the Tray attachment, use the hardware provided in the Z-Bracket Kit. Secure the Z-Bracket to the Tray and then secure the Ratchet P-Clamp to the top of the Z-Bracket. **Torque to 15 ft.-lbs.**

For more on Ratchet P-Clamps see: hellermanntyton.us

# Installing PipeGuard - *Conduit Support*

**NOTE**

The use of a compatible separator sheet is required between PipeGuard and PVC roofing membranes. Consult roof membrane manufacturer for specific requirements.
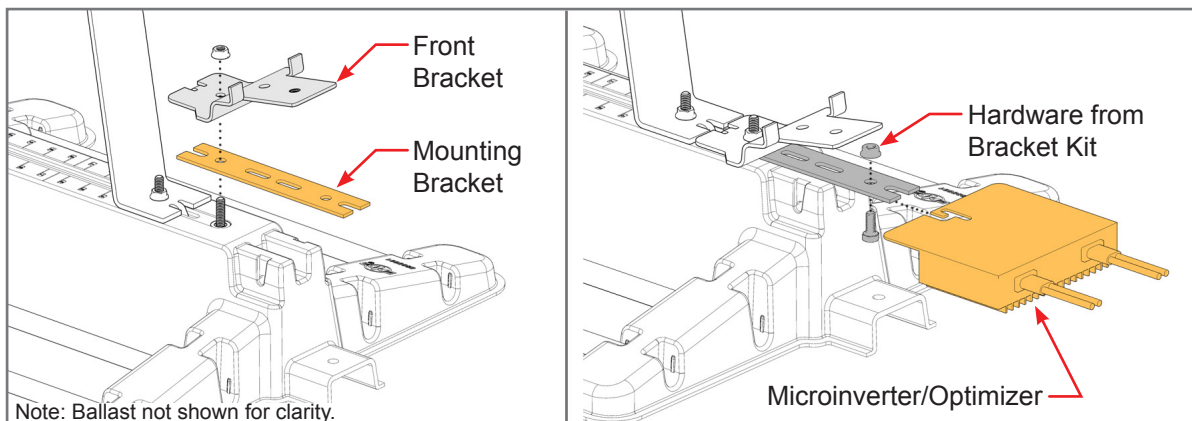
**1**

**2**

**3**

**4**
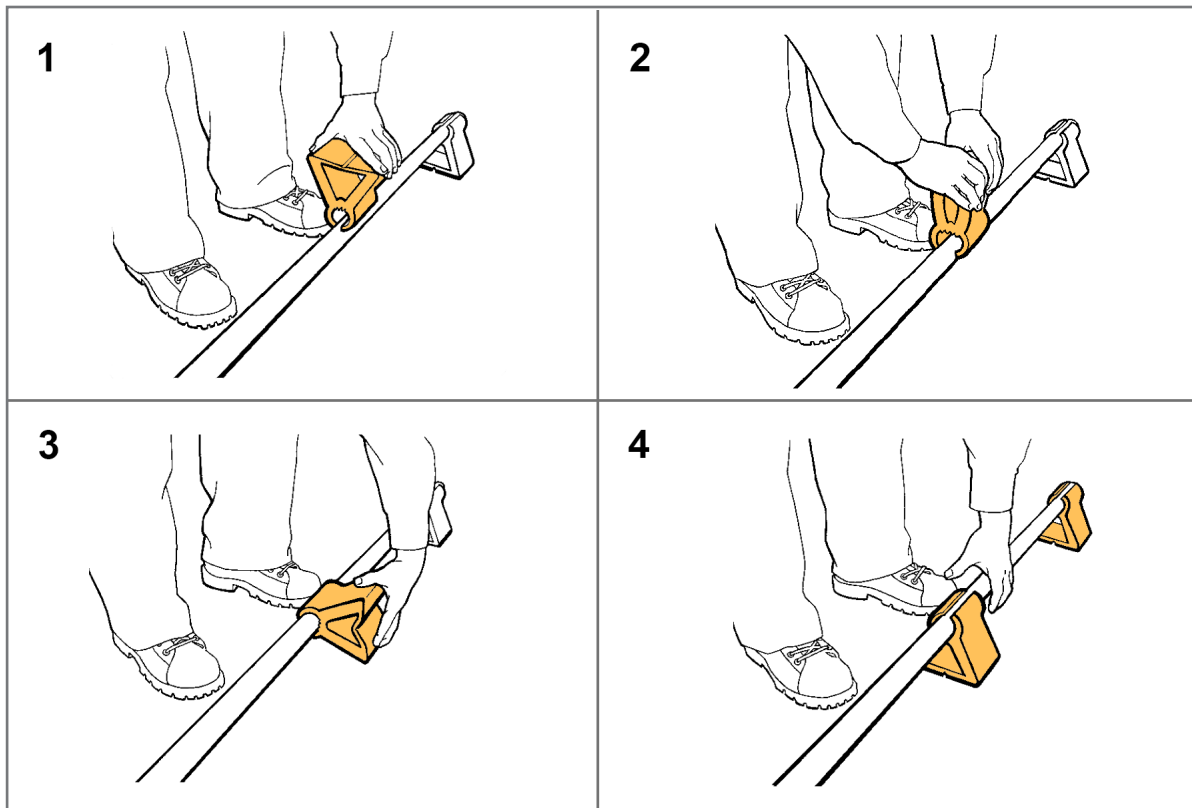
1. Hold the PipeGuard in its desired location along the conduit.
2. Squeeze the bottom of the PipeGuard, to open its clamp and accept the conduit. Press clamp portion onto conduit.
3. Rotate the PipeGuard into position under the conduit.
4. Let the PipeGuard rest on the roof surface.

Spacing Placement:
- Every 10 ft. (3.05m) for 2" (50mm) pipes or larger.
- Every 8 ft. (2.44m) for 1.5" (40mm) pipes.
- Every 6 ft. (1.83m) for 1" (25mm) pipes or smaller.

Place at every union, junction and source.

For more on PipeGuard see: omgroofing.com

# Installing a Microinverter/Optimizer - *Tilted (5° & 10°) Array only*

Front Bracket

Mounting Bracket

Hardware from Bracket Kit

Microinverter/Optimizer

Note: Ballast not shown for clarity.

Attach the Mounting Bracket under the Front Bracket using the existing Flange Nut. **Torque to 15 ft.-lbs.**

Using the hardware provided in the Mounting Bracket Kit, attach the Microinverter/Optimizer to the underside of the Mounting Bracket. Tighten securely.

## Installing Roof Protection Pads - *All Systems*

Tray Assembly

Protection Pads

Installed Protection Pads
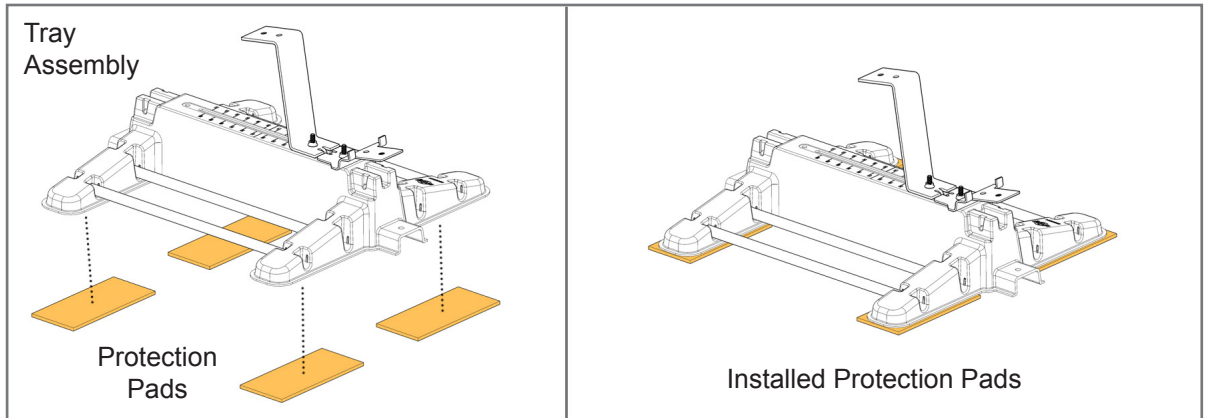
Use four Protection Pads per Tray Assembly, placing one Pad under each of the four Tray legs as shown.

## Installing Deflectors - *Tilted (5° & 10°) Array*

**B**

**A**

**A**

Deflector

Backing Plate

**B**
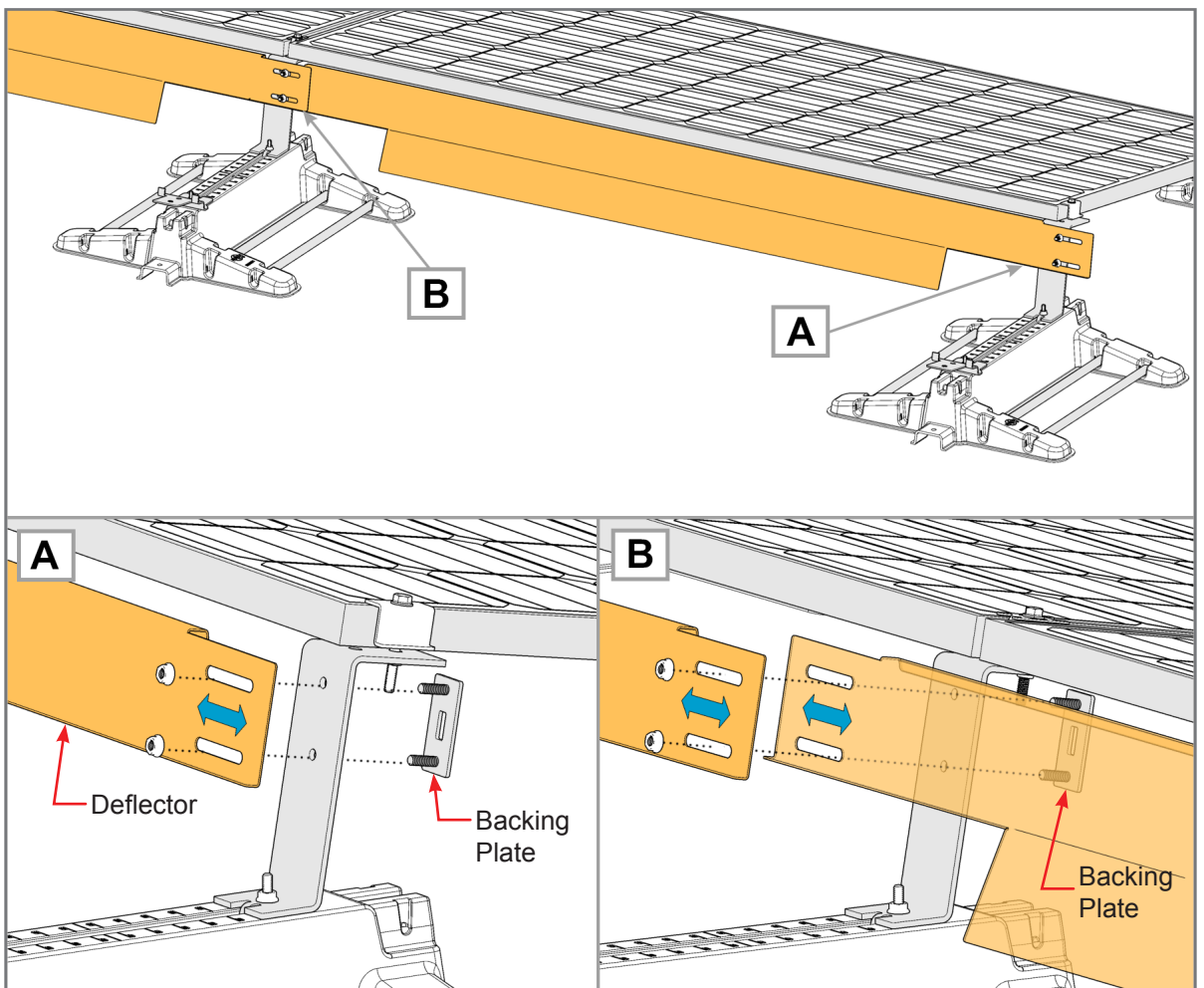
Backing Plate

Insert the Backing Plate through the Back Bracket and the Deflector, thread on 5/16" Flange Nuts. Adjust the Deflector from side-to-side as needed then tighten the Flange Nuts. **Torque to 15 ft.-lbs.**

Insert the Backing Plate through the Back Bracket and the overlapping Deflectors. Thread on 5/16" Flange Nuts. Adjust the Deflectors from side-to-side as needed then tighten the Flange Nuts. **Torque to 15 ft.-lbs.**

# Installing High Load Brackets - *Tilted (5° & 10°), and Dual Tilt Array*

**NOTE**

High Load Brackets are used in those areas where heavy snow loads or other conditions require additional Module support.

Install two High Load Brackets for each set of Modules. Place one Bracket under the lower (as shown) and one under the upper edge of each set of two Modules.

1. Orient the High Load Bracket as shown, aligning its notches with the upright tabs of the Module Bracket.

2. Install the Modules and the AMP Clamp per Assembly Instructions, securing High Load Bracket in place underneath the Modules.
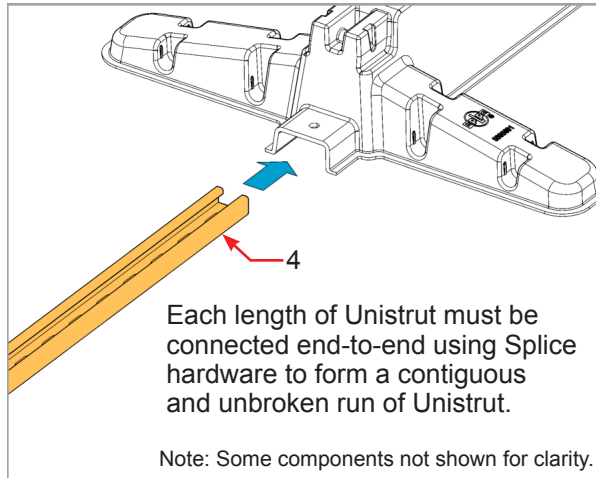
High Load Bracket

AMP Clamp
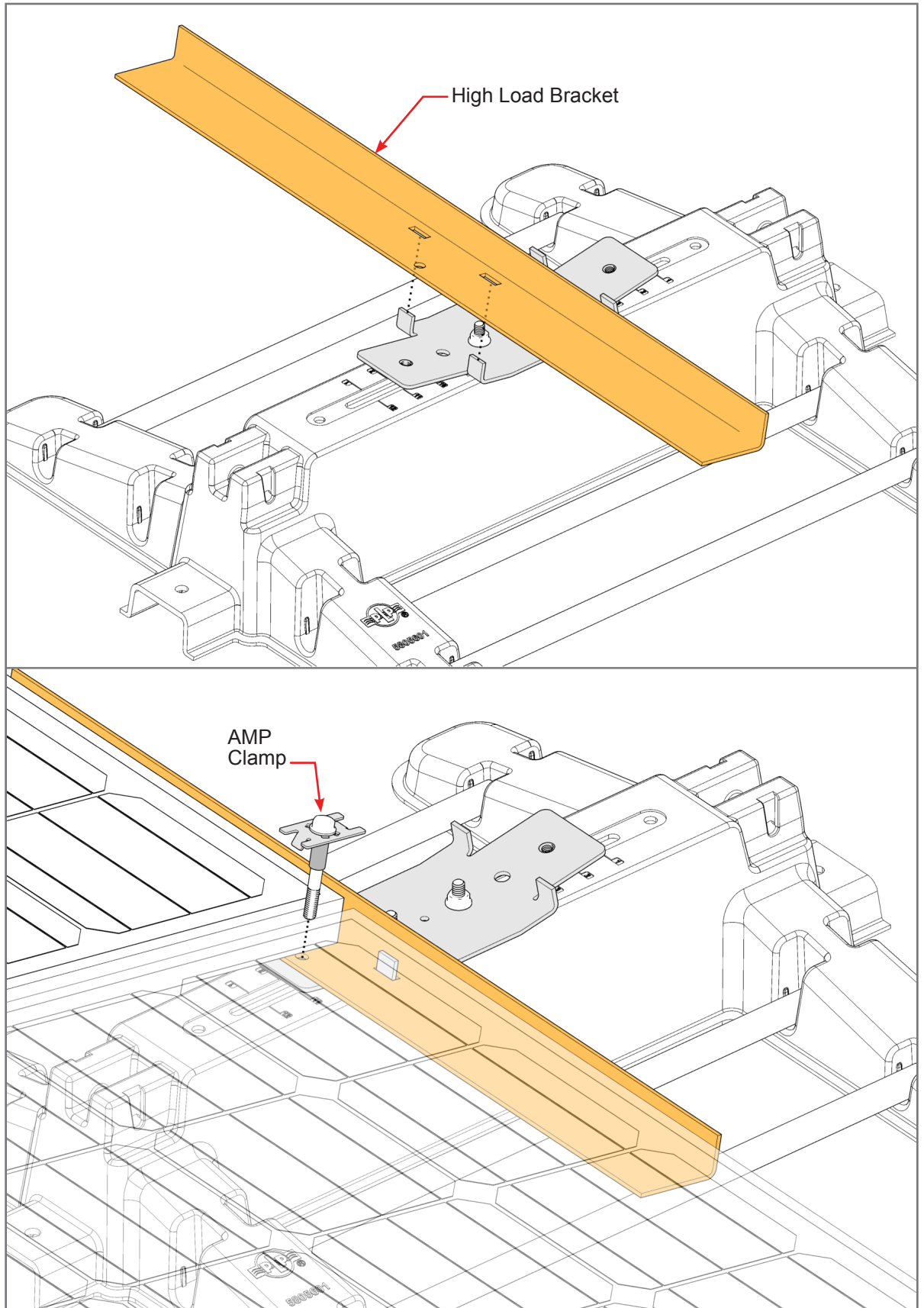
# Installing Seismic Attachments - *All Systems*

**NOTE**

These instructions do not include the installation of the attachment to the roof top surface. Refer to the attachment manufacturer for product specific installation instructions.
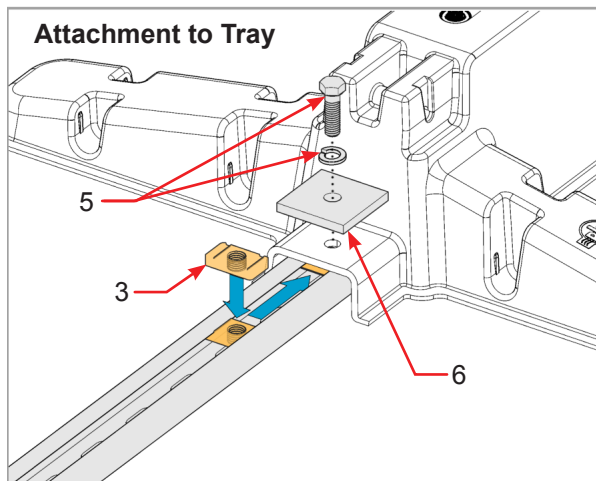


Each length of Unistrut must be connected end-to-end using Splice hardware to form a contiguous and unbroken run of Unistrut.

Note: Some components not shown for clarity.

Pass the Unistrut under the Ballast Trays and position N-S to accommodate roof attachment locations.
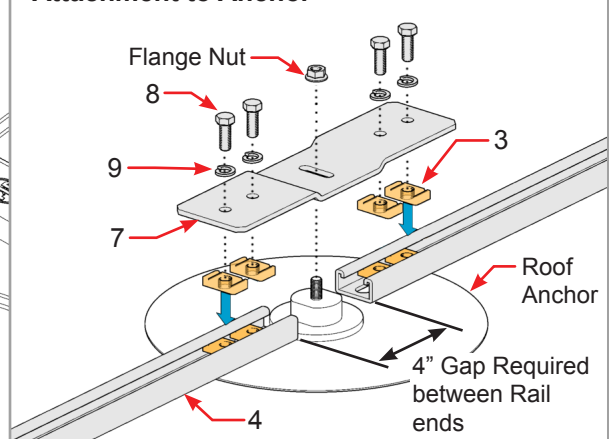
**Rail Splice**
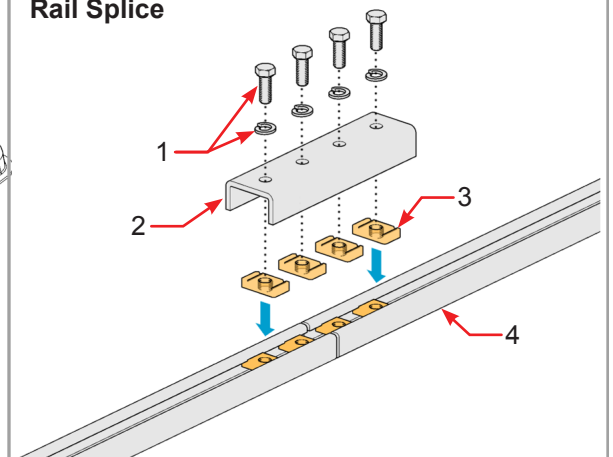


As needed, Splice Unistrut sections together. **Torque to 20 ft.-lbs.**

**Attachment to Tray**



Secure the Unistrut to the Ballast Trays (it's only necessary to secure the north end of each Ballast Tray) **Torque to 20 ft.-lbs.**

**Attachment to Anchor**



Flange Nut

Roof Anchor

4" Gap Required between Rail ends

Install/secure the Roof Anchor to the rooftop. Secure the Unistrut to the Roof Anchor with the Seismic Attachment and hardware. **Torque to 20 ft.-lbs.**

| Item | Description | Qty | Supplied By |
|------|-------------|-----|-------------|
| 1 | 3/8-1" Hex Bolt & Lockwasher - Stainless Steel | 4 | Customer |
| 2 | Splice, Unistrut p/n P4377 or Equivalent | N/A | Customer |
| 3 | Channel Nut, Unistrut p/n P3008 or Equivalent | 4 | Customer |
| 4 | Rail, Unistrut p/n P3300 or Equivalent | N/A | Customer |
| 5 | 3/8 x 1-1/4" Hex Bolt & Lockwasher - Stainless Steel | N/A | Customer |
| 6 | Square Washer, Unistrut p/n P1063 or Equivalent | N/A | Customer |
| 7 | Attachment Plate (Anchor Attachment Kit) | 1 | PLP |
| 8 | 3/8-16 x 1" Hex Bolt (Anchor Attachment Kit) | 4 | PLP |
| 9 | 3/8 Lock Washer (Anchor Attachment Kit) | 4 | PLP |

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