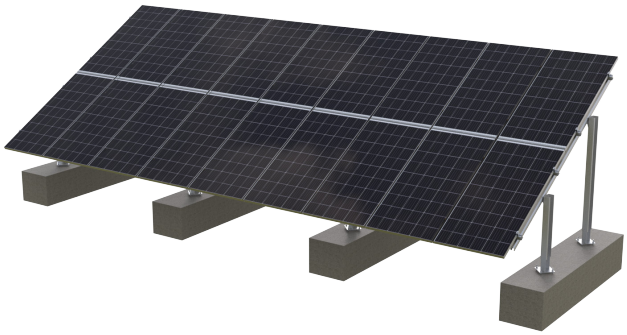
POWER PEAK™ POWER BASE™

INSTALLATION INSTRUCTIONS



⚠ IMPORTANT SAFETY INFORMATION

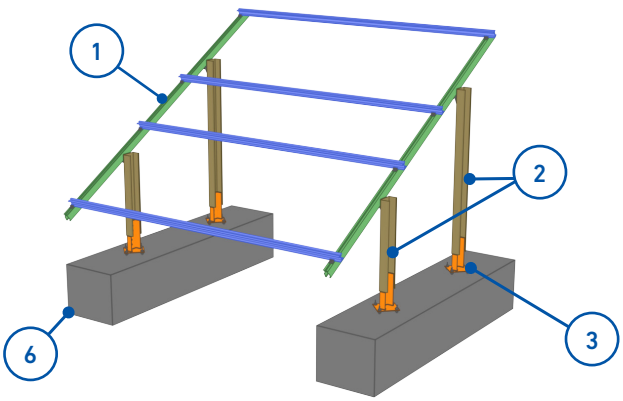
READ AND COMPLETELY UNDERSTAND ALL INSTRUCTIONS BEFORE INSTALLING PRODUCT. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY OR DEATH.

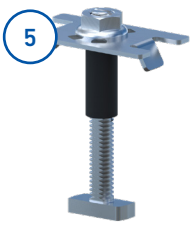
This product is intended for use by trained technicians only. This product should not be used by anyone who is not familiar with and not trained to use it. When working in the area of energized lines, extra care should be taken to prevent accidental electrical contact. Be sure to wear proper safety equipment per your company protocol. These instructions are not intended to supersede any company construction or safety standards. These instructions are offered only to illustrate safe installation for the individual. PLP products are intended for the specified application only. Do not modify this product under any circumstances. Do not reuse or reinstall any PLP product unless that capability is expressly indicated in the product's Installation Instructions. For proper performance and personal safety, be sure to select the proper PLP product before installation. PLP products are precision devices. To ensure proper performance, they should be stored in cartons under cover and handled carefully.

⚠ WARNING

Stainless steel hardware can gall when tightened too quickly. Installer should use a silver grade anti-seize compound prior to assembling any stainless steel hardware. Do not use an impact driver. All other driver types should be set to low speed settings.

PACKAGE COMPONENTS





1. Strongback
2. C-Channels (Short & Tall)
3. C-Channel Adjustable Base
4. Grounded End Clamp Assembly
5. AMP™ Mid Clamp with RAD™ Bolt
6. Ballast Block (Provided by PLP precaster with anchor bolts included -or- pour in place per PLP approved forms)

Tools Required:

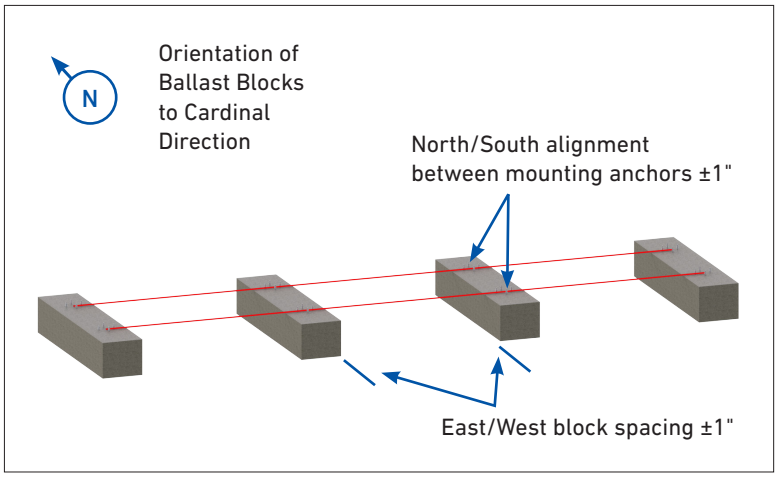
- 7/8" wrench or socket for 1/2" module clamp hardware
- 1/2" wrench or socket for 5/16" inch hardware
- Torque wrench
- Ratchet wrench
- Ratchet extension bar
- String
- Framing Square
- Tape Measure
- Inclinometer

1 Set Ballast Blocks to match the site-specific drawings.

Run strings between a minimum of four Ballast Blocks, attaching the string to the mounting anchors of the outer blocks.

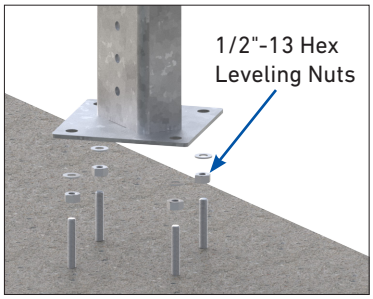
⚠ WARNING

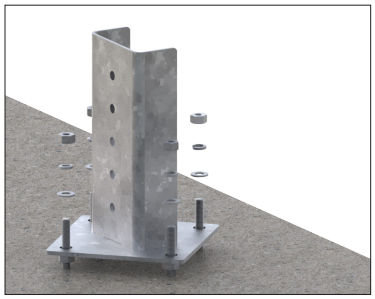
Failure to meet the site-specific ballast requirements can lead to structural failure and/or serious injury or death. Additionally, this will void the system warranty.



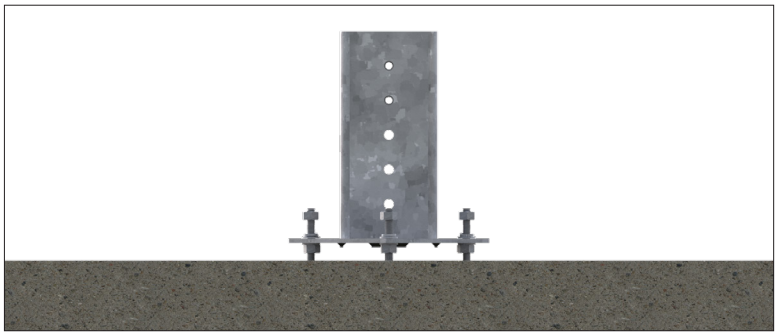
2 Install the adjustable bases by first threading four 1/2"-13 hex leveling nuts and flat washers followed by the adjustable base.

Install the remaining 1/2" hardware (nuts, lock and flat washers) but do not tighten at this time as they must be loose in order to level and plumb each adjustable base.



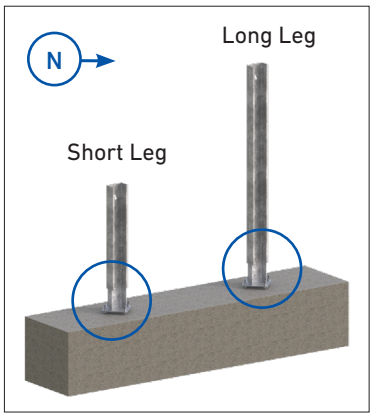


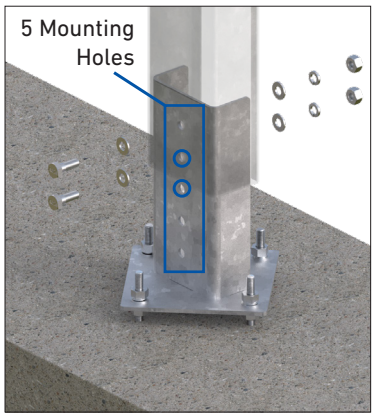
3 Use a level to plumb each adjustable base. Thread leveling nuts up/down to plumb/level the adjustable base. After alignment, thread nuts down and hand tighten for now as further adjustments may be needed.



4 Use a level to plumb each adjustable base. Thread leveling nuts up/down to plumb/level the adjustable base. After alignment, thread nuts down and hand tighten for now as further adjustments may be needed.

NOTE: Start with the indicated middle mounting holes, adjustments can be made later as needed.



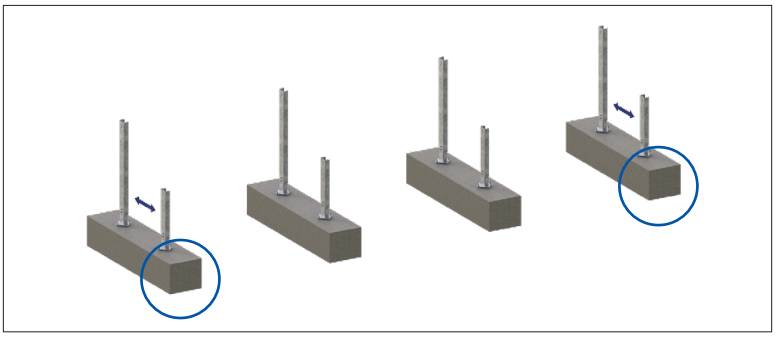


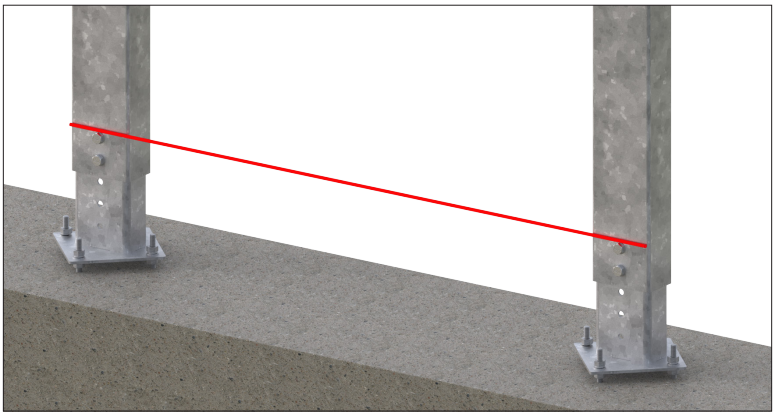
5

Adjust the N-S leg elevations on the outer most East and West blocks only. The interior blocks will be brought into alignment in **Step 6**.

Check for level by running string N-S between the top mounting bolts. Adjust as-needed by threading the leveling nuts up/down.

After adjustments are complete, tighten hardware on these outer blocks and torque adjustable base hardware to 50-55 ft-lb. Torque leg hardware 65-70 ft-lb.





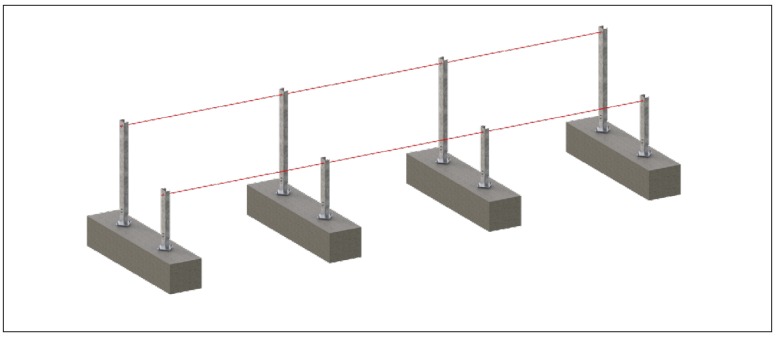
6

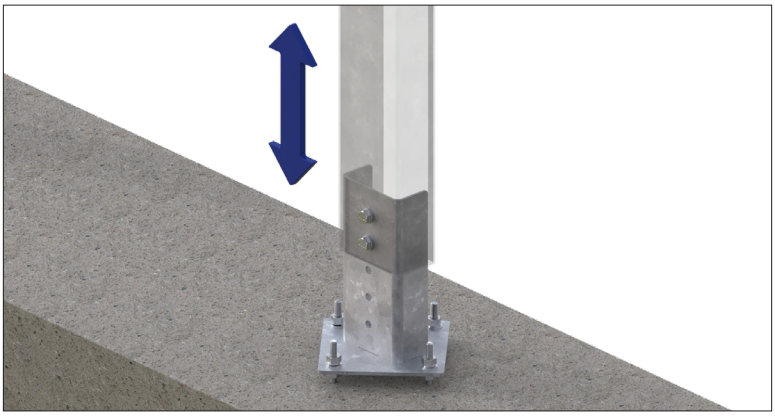
Run string between a minimum of four legs. Adjust elevations of legs to ±1/2" by shifting leg(s) to the next set of mounting holes on the adjustable base, and/or by using the leveling nuts under the adjustable base for finer micro adjustments.

Verify that legs are still plumb, then Torque adjustable base hardware to 50-55 ft-lb. Torque leg hardware 65-70 ft-lb.

NOTE: 2 inches of vertical movement is achieved by shifting the leg between sets of mounting holes.

NOTE: Micro vertical movement is achieved by threading the leveling nuts up/down.



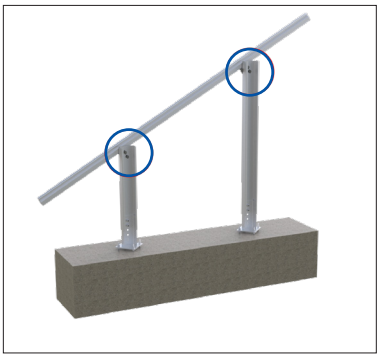


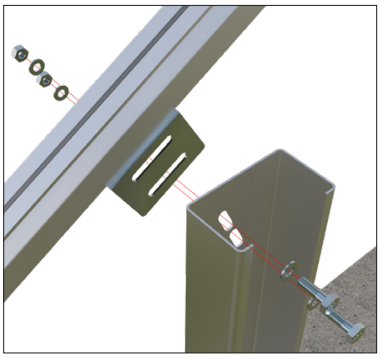
7

Install the Strongback using 1/2"-13 x 1-1/2" hex bolt, flat washers, lock washer and hex nut. For now, adjust the Strongback position so its slotted holes are centered with the slotted holes of the legs.

Tool tighten hardware for now to hold the Strongback in place.

NOTE: At this stage the Strongback positioning is considered a temporary position. The intent is to establish a starting position for each Strongback. Further adjustments to align the Strongbacks will take place later.





8

Using string and an inclinometer, the Strongbacks can be aligned and tilted in one procedure. The slotted holes of the Strongback provide for 3" of N-S movement while the slotted holes of the legs provide for 1-1/2" elevation and tilt adjustments.

A. Pull string lines at North and South ends of outer Strongbacks.

B. Place inclinometers on outer Strongbacks.

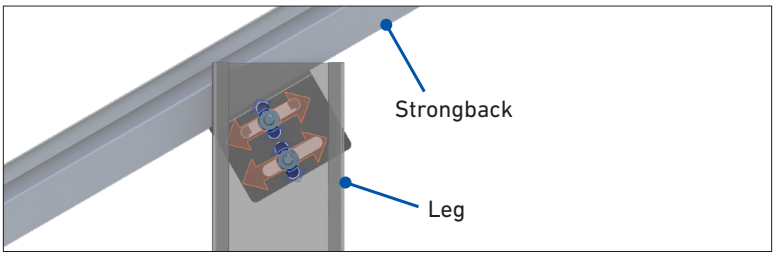
C. Align and set the tilt angle on the outer Strongbacks.

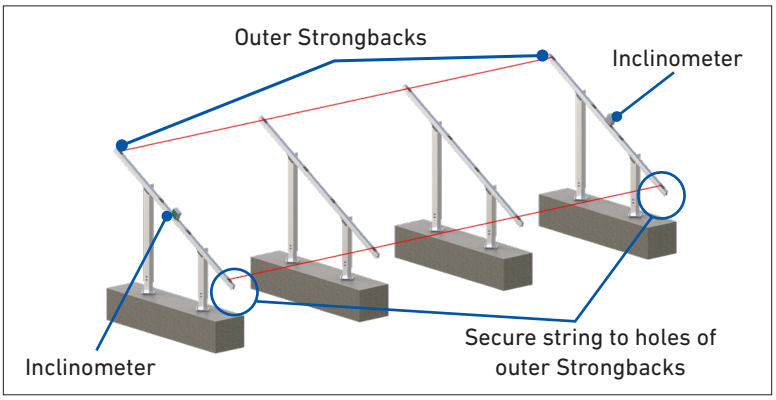
D. Align and set the tilt angle on inner Strongbacks by aligning them to the strings.

E. Tighten all hardware securing the Strongbacks to Legs. Torque to 65-70 ft-lb.

NOTE: Inclinometer variance between Strongbacks must be set within a tolerance of ±3˚.

NOTE: Alignment to string must be ±1/2".



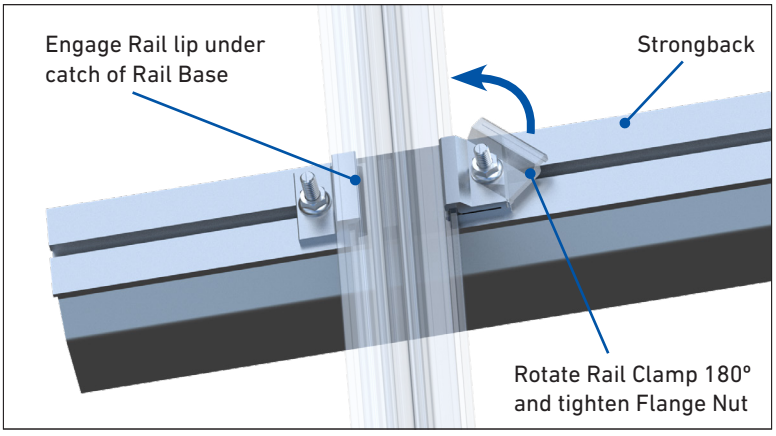


9

The Rails are secured via the pre-assembled clamping system (Rail Base & Rail Clamp) which are attached to the Strongbacks. Cantilever distance between the outermost Strongback and the Rail end must be set per specifications.

If necessary, rails are spliced using a splice plate and self-tapping hardware. Splicing can be done either before or after the rails are installed on the Strongbacks. Install the splice plates with 1/4" x 3/4" self-drilling screws. Torque to 8 ft-lb.

NOTE: The location of the rail bases are present at the factory. If alignment with the rails is a problem, simply slide the rail bases along the Strongbacks to align with the rails.



⚠ WARNING

This is a two person activity. During the tilt adjustment, one person must hold the southern end of the Strongback while the second person loosens the hardware and then re-tightens the hardware after the desired tilt has been achieved.

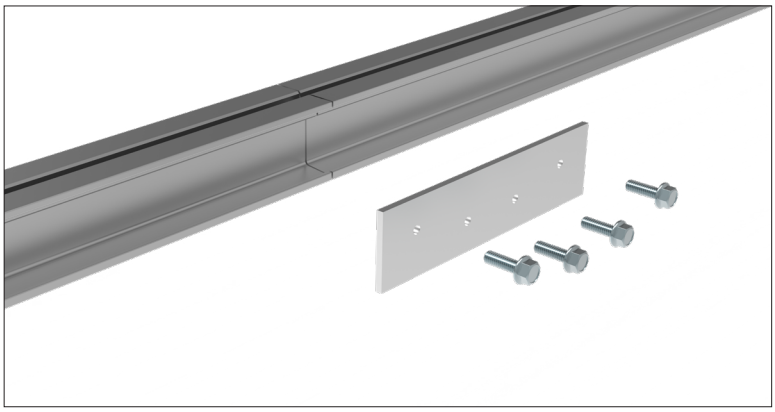
10

At each rail break, only one splice kit needs to be installed. It is recommended to install the splice on the downslope side of the rail, so that the up slope channel can be used for wire management. Installation in either channel is allowed.

This is a structural splice and can be installed anywhere along the rail. However, for optimal performance, it is recommended that the splice be installed less than 1/3rd of the span from the Strongback. For example, if the rail span is 120", the splice should be installed less than 40" from the Strongback for the best performance.

NOTE: The splice kit does not need to be installed on both side channels at the same location, unless specified by a professional engineer.

NOTE: When the bolts in the splice kit are torqued to spec, you may notice some dimpling on the opposite side of the rail. This is completely normal and continue to torque the remaining bolts.

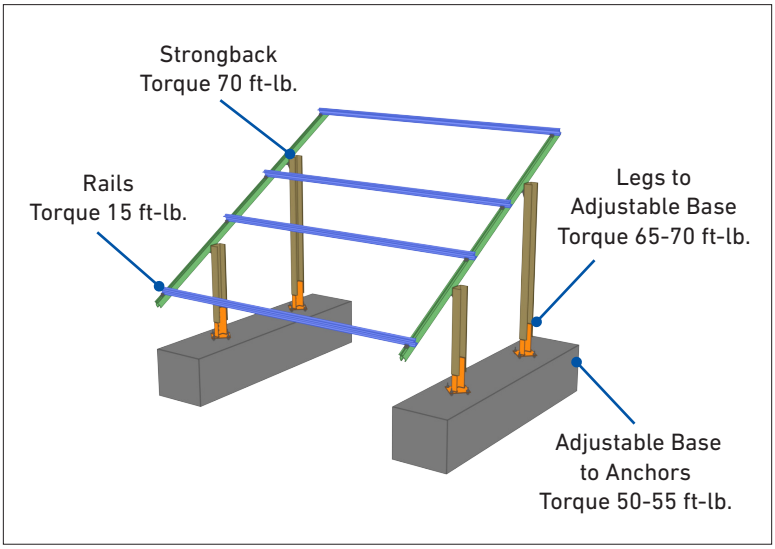


11

It is very important to tighten and torque all hardware as specified.

CAUTION

Exceeding torque values can result in damage to components and/or hardware.



12 AMP™ Clamp bonding Mid Clamps must be installed as shown at above left and not as shown to the right. There cannot be any visible gaps between the bonding mid clamps and module frames.

Install end clamps by pushing the end clamp assembly tightly against the module frame. There should not be a visible gap between he neoprene washer and the module frame.

Prepare to install the modules by first marking the Rails 1-1/2" from their ends as indicated above. The end clamps will align to these marks.

AMP Clamp bonding mid clamps are inserted into the rail and positioned between adjacent modules. Insert the 5/16" RAD™ Bolt into rail and rotate 90° clockwise to lock the RAD Bolt within the rail. Push modules against AMP Clamp. Tighten 5/16" flange nut. Torque to 15 ft-lb.

RAD End Clamps are used on the outer modules. Insert the 5/16" RAD Bolt into rail and rotate 90° clockwise to lock the RAD Bolt within the rail. Secure with 5/16" flange nut. Torque to 15 ft-lb.

NOTE: The RAD Bolts used in the AMP Clamps and end clamps must be locked into the channel by rotating clockwise 90°. Use the indicator slot on the threaded end to identify whether or not the bolt has been locked.

⚠ WARNING

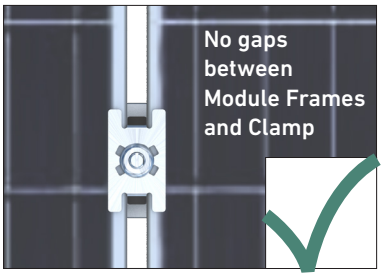
This is a two person activity. In addition to the difficulties associated with working on a sloped rack, PV modules are heavy. One person should hold and align the modules while a second person secures modules with clamping hardware. Failure to do so could lead to serious personal injury and/or damaged components.

Module clamps must be correctly installed. Failure to follow the correct method could lead to personal injury structural failure, and/or damaged components.

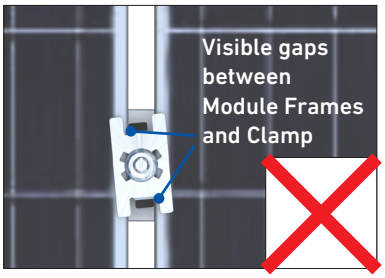
CAUTION

If the flange nut has been removed from the assembly, add Pentrox-A on threads of RAD Bolt before re-installing flange nut.

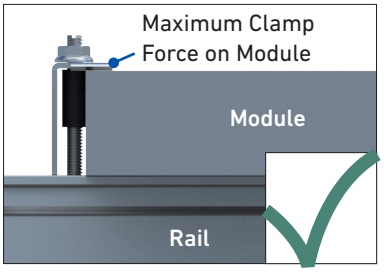
Exceeding torque values can result in damage to rail and/or hardware.



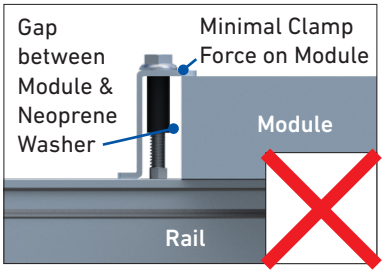
AMP Clamp Correctly Installed



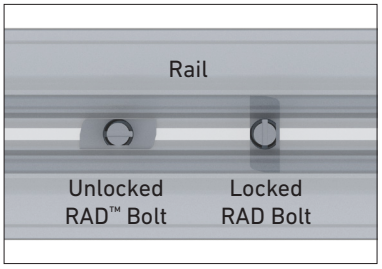
AMP Clamp Incorrectly Installed

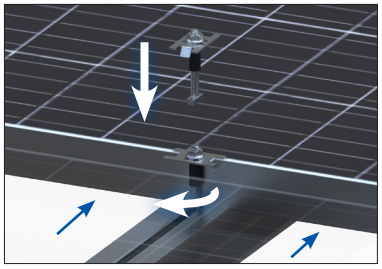


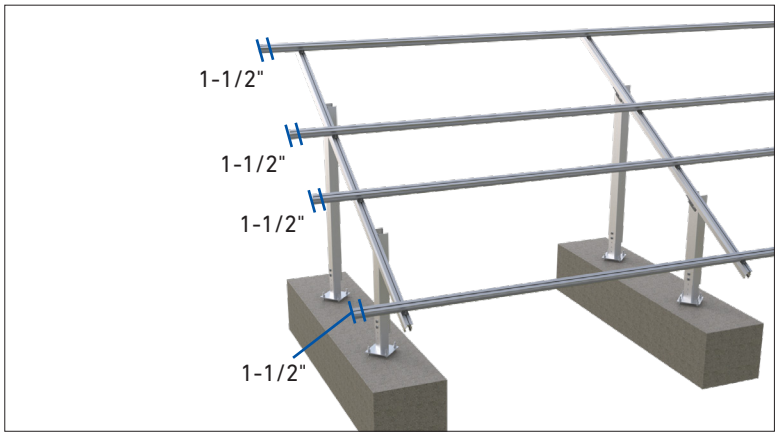
End Clamp Correctly Installed

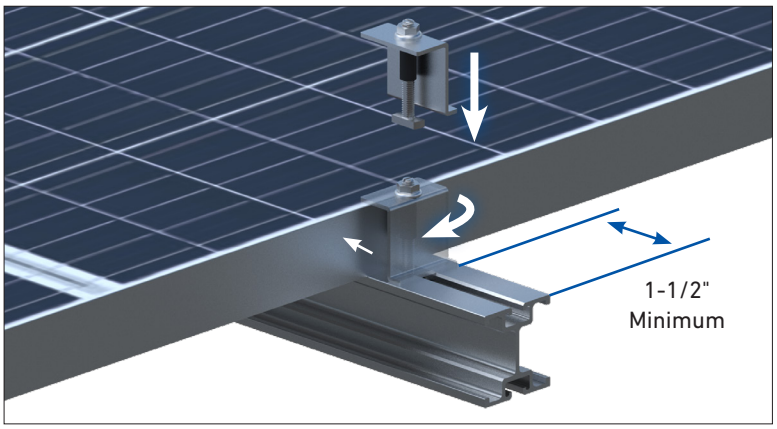


End Clamp Incorrectly Installed

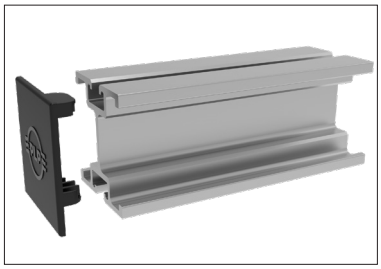


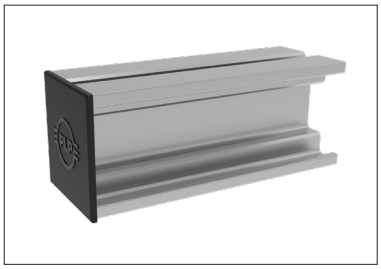




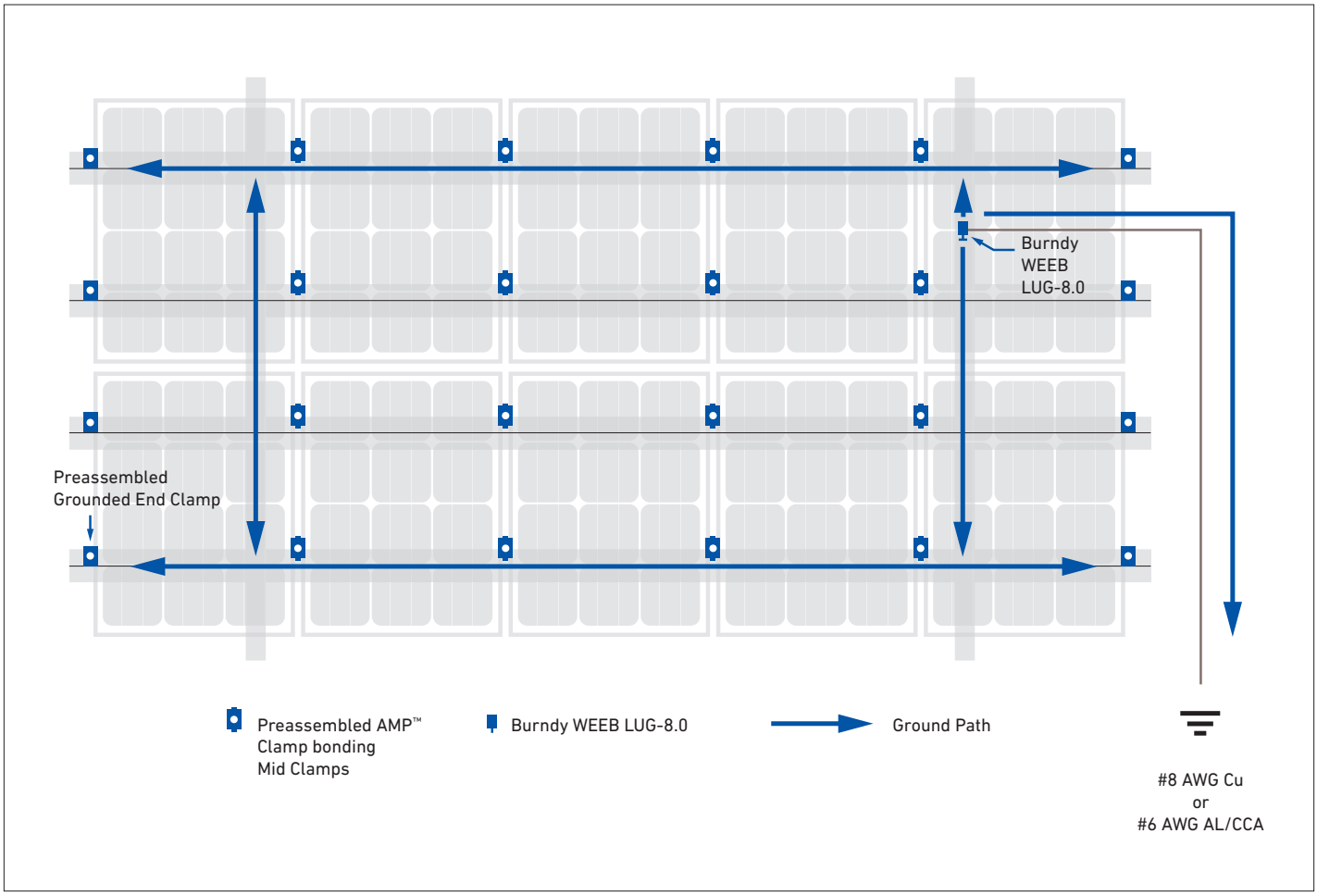


13 Install rail end cap.





GROUNDING/BONDING PATH

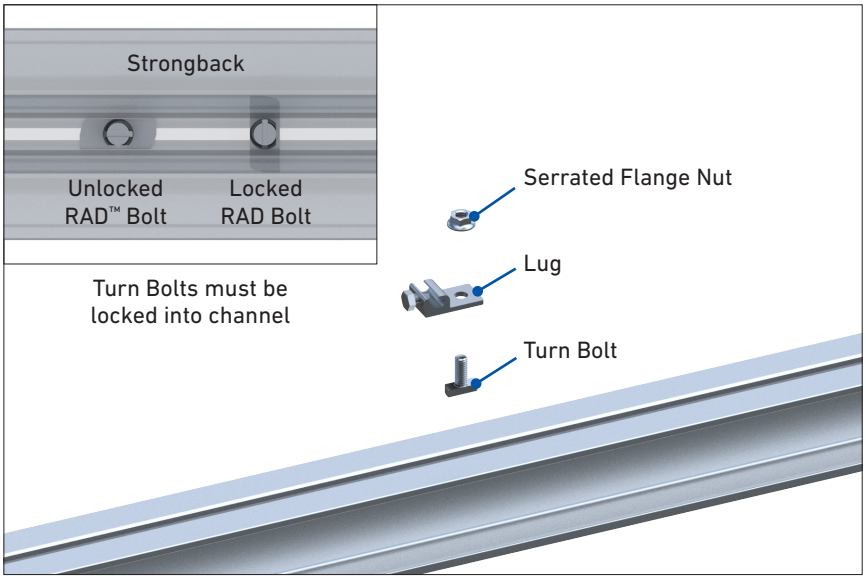


INSTALLING A WEEB-LUG 8.0

Before installing, verify with the lug manufacturer for any updates or revisions to these lug installation instructions.

Lug is suitable for use with 14-6 AWG solid or standard copper conductor when tightened to 5 ft-lb.

NOTE: The turn bolts used must be locked into the channel by rotating clockwise 90°. Use the indicator slot on the threaded end to identify whether or not the bolt has been locked.



Catalog Number	Maximum OCPD (A)	Mounting Surface					Mounting Screw		Mounting Hole Range	
		Minimum Profile	Minimum Thick	Maximum Thick	Mtl	Surface Prep	Size	Tightening Torque	Minimum	Maximum
		w x l	in	in				lb - in	mm	mm
WEEB-LUG-8.0	200	22 mm x 20 mm	0.06	0.25	AL	Anodized	5/16" M8	120	7.85	10
			0.06	0.25	Steel	Galvanized				

⚠ IMPORTANT INFORMATION

1. Before installing, verify with the lug manufacturer for any updates or revisions to these lug installation instructions. The instructions on this page only address the WEEB-LUG-8.0 as found within the manufacturers (Burndy) document number 50016572 Rev E.

2. The NEC section 690.43 states, "Exposed non-current carrying metal parts of module frames, equipment, and conductor enclosures shall be grounded in accordance with 250.134 or 250.136 (A) regardless of voltage."

3. For Proper Equipment Grounding Conductor (EGC) and Overcurrent Protection Device (OCPD) sizing, refer to NEC sections 250.66, 250.122, and 250.166.

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