Wiley Electronics LLC

Washer, Electrical Equipment Bond

WEEB

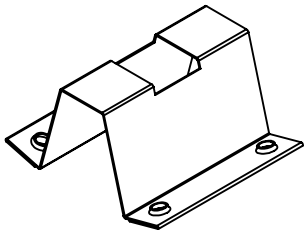
Patent Pending

INSTALLATION INSTRUCTIONS

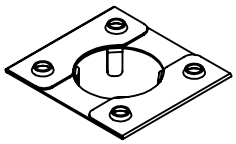
For DP&W Solar Power FAB™ CRS Only

Please read carefully before installing.

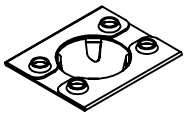
Wiley Electronics recommends that sufficient details of the installation be submitted to the AHJ for approval before any work is started.



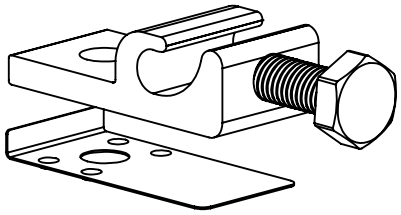
WEEB-DPF



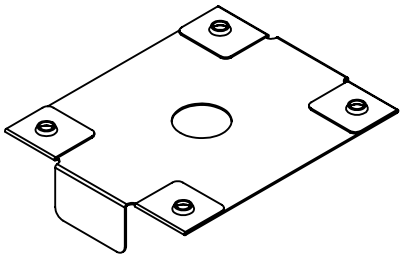
WEEB-11.5



WEEB-9.5



WEEBL-8.0



WEEB-WMC

Intertek 3098177

Products are tested to UL 467
UL standard for safety grounding and bonding equipment

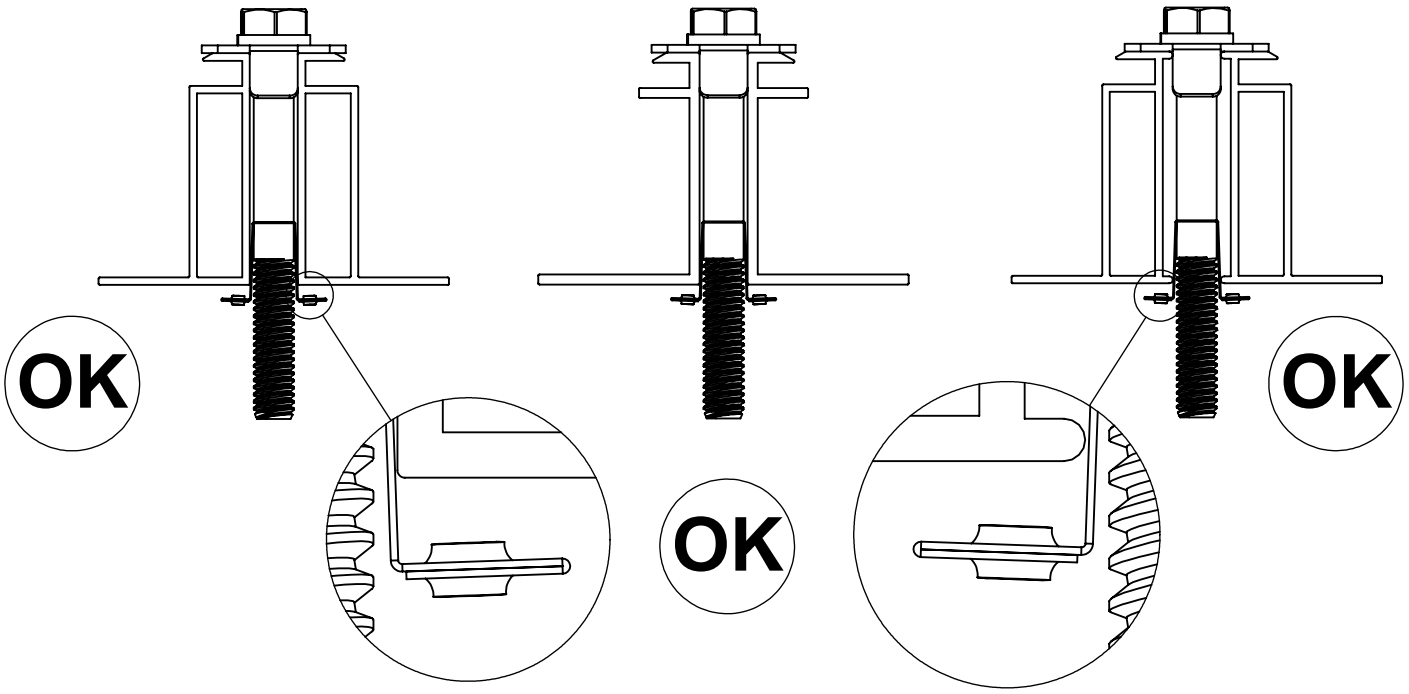
Document Number 104-0404-000036-005

WEEB COMPATIBILITY

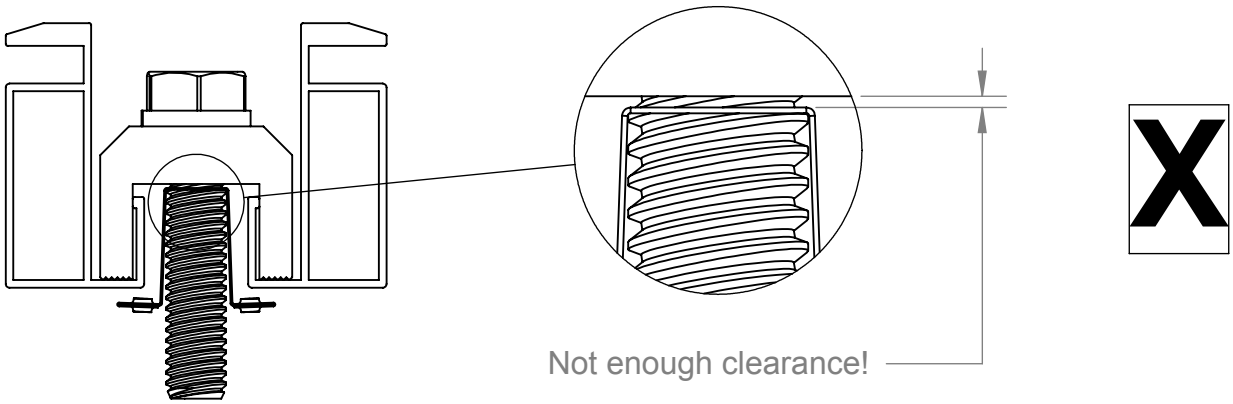
The WEEB family of products can be used to bond anodized aluminum, galvanized steel, steel and other electrically conductive metal structures.

Standard Top Down Clamps

The WEEBs used for bonding the PV modules to the mounting rails are compatible with various cross-sections of module frames. The following are examples of module frames that are compatible. Notice that the WEEB teeth are positioned completely under the edge of the module frame.

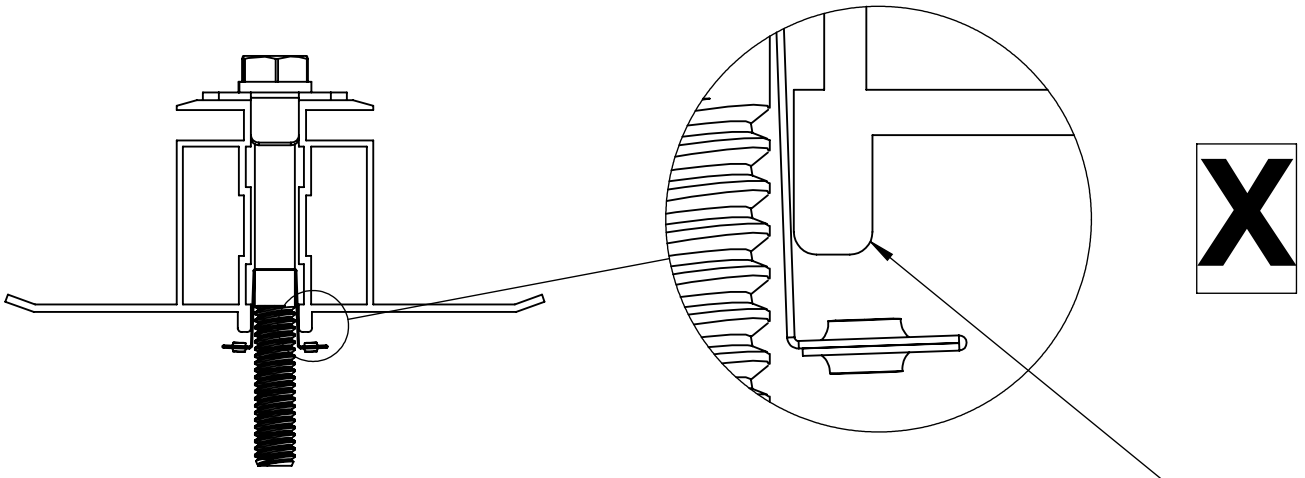


The following is an example of a module frame that is incompatible with the WEEB-DPF. Lipped solar modules mounted with inverted U-shaped clamps do not have enough clearance to fit the WEEB-DPF.

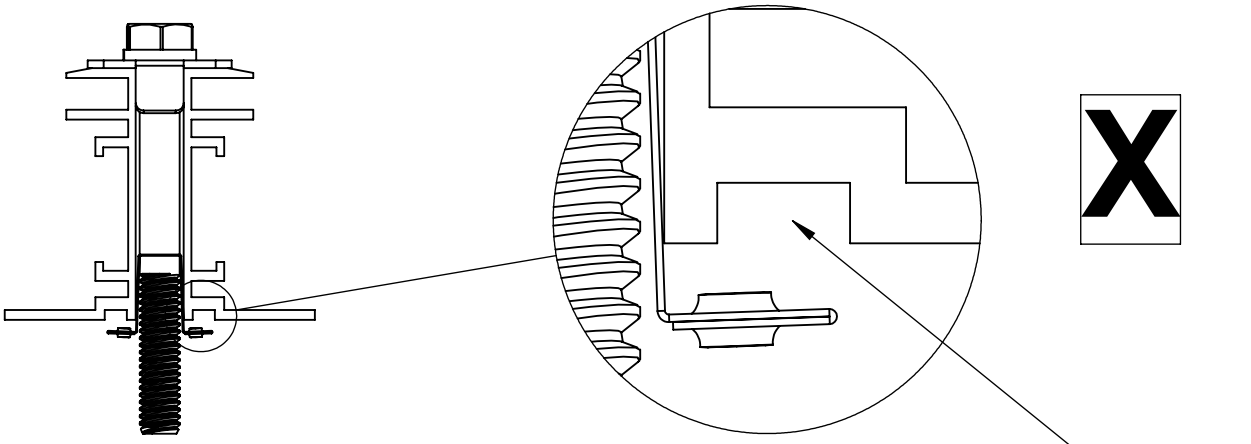


WEEB COMPATIBILITY

Module frames like those shown here may have a ridge or lip on the bottom edge of the frame that would prevent the WEEB teeth from fully embedding.



Shown here is an example of a lip that will prevent the WEEB teeth from properly penetrating the module frame. This type of frame is not compatable with the WEEB

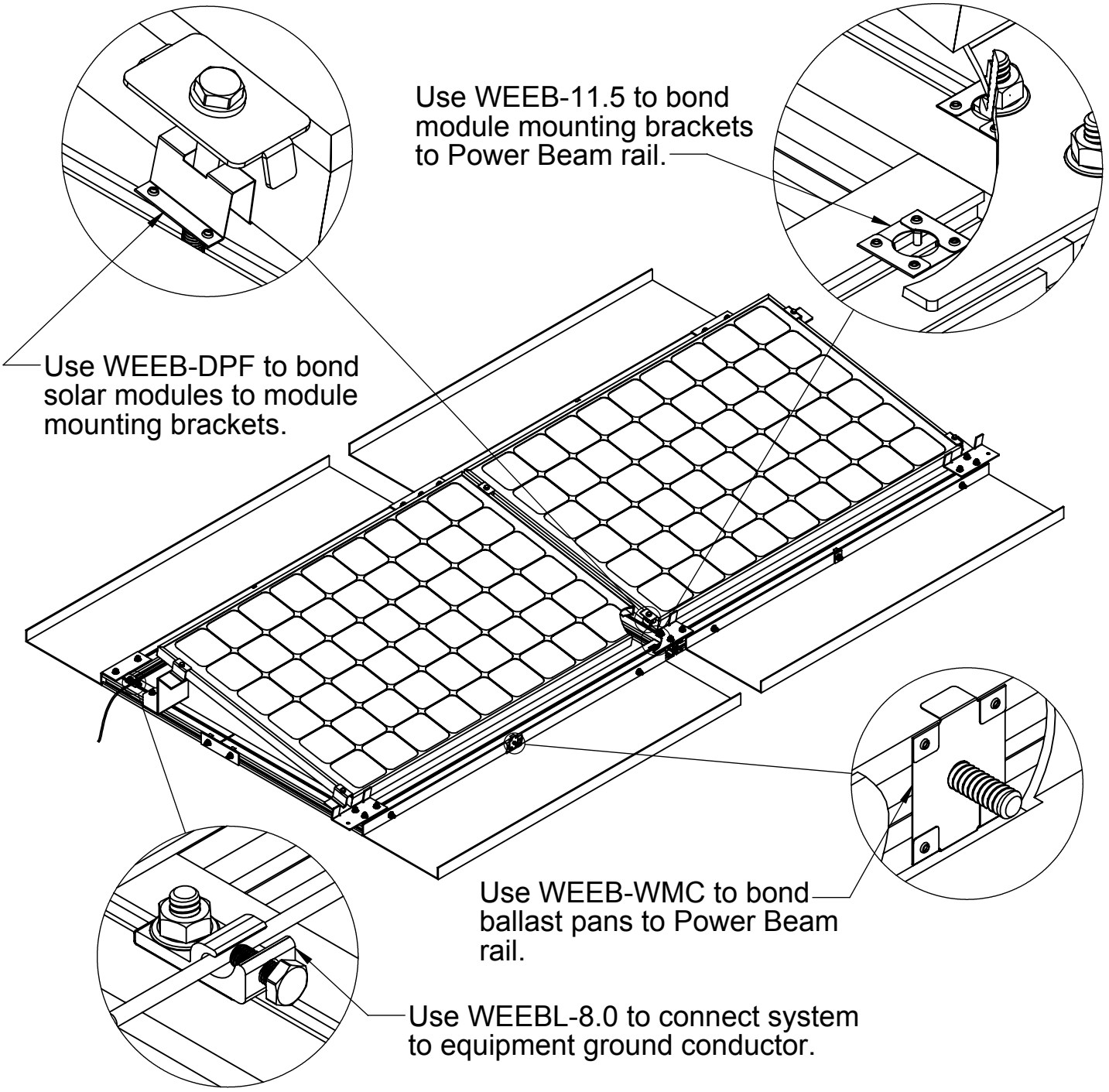


Shown here is an example of a groove that will prevent the WEEB teeth from properly penetrating the module frame. This type of frame is not compatable with the WEEB

Important Note:

Inspect each module frame used with a WEEB to ensure that the bottom mounting face of the frame is flat, and that there are no hinderances to embedding WEEB teeth. Do not use a module with a frame that prevents the WEEB teeth from embedding fully.

SYSTEM OVERVIEW



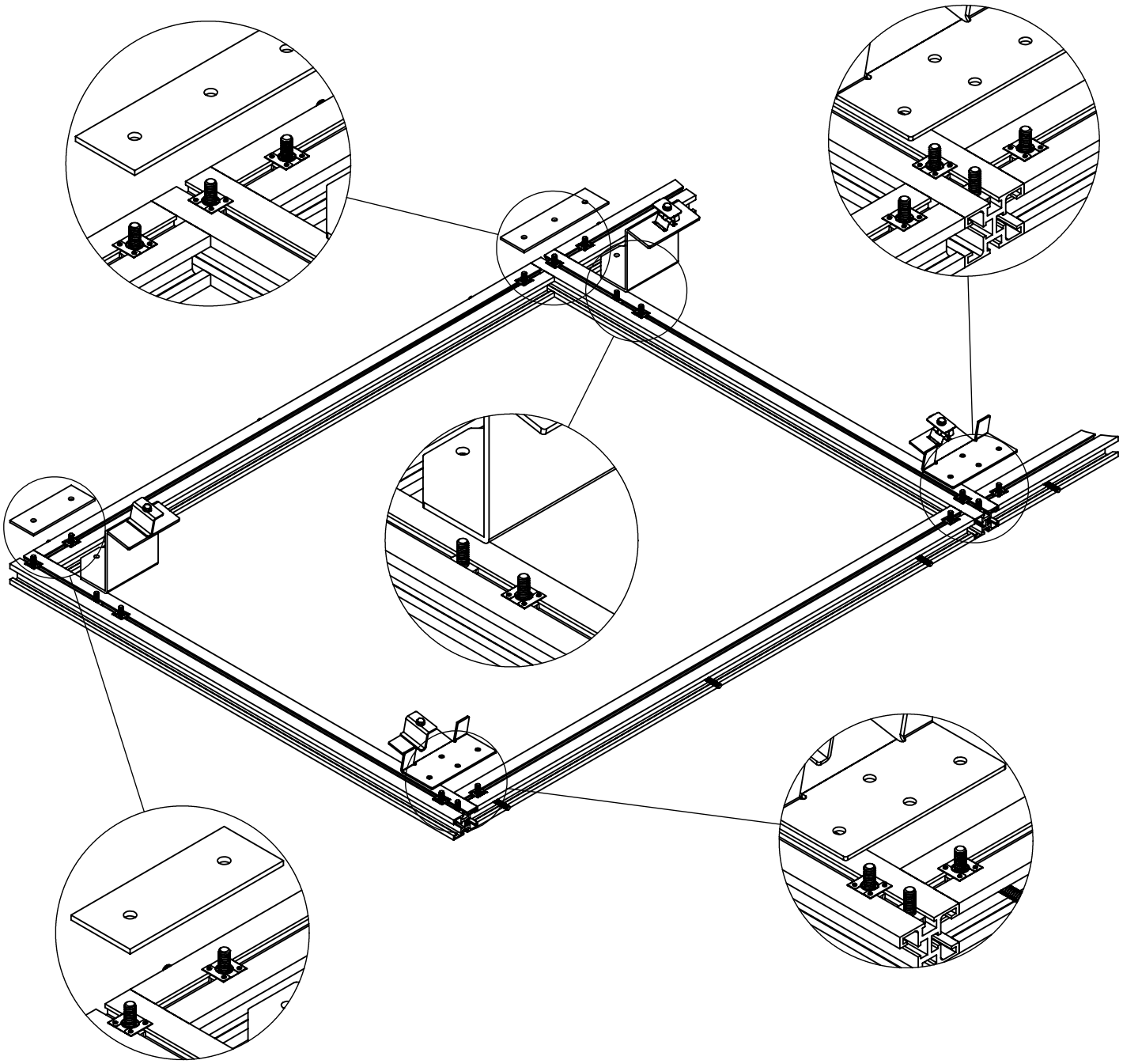
Important Notes:

1. **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."**
2. **Use general purpose anti-seize compound on fastener threads when installing WEEBs.**
3. **WEEBs are intended for SINGLE USE ONLY. Functionality will not be guaranteed if reused.**

Module Mounting Brackets and Joiner Brackets

Use at least one WEEB-11.5 under every mounting bracket and joiner bracket. Use more than one when that bracket joins two or more separate rails together. Place one WEEB-11.5 on the T-bolt of each individual rail, under a module mounting bracket or joiner bracket.

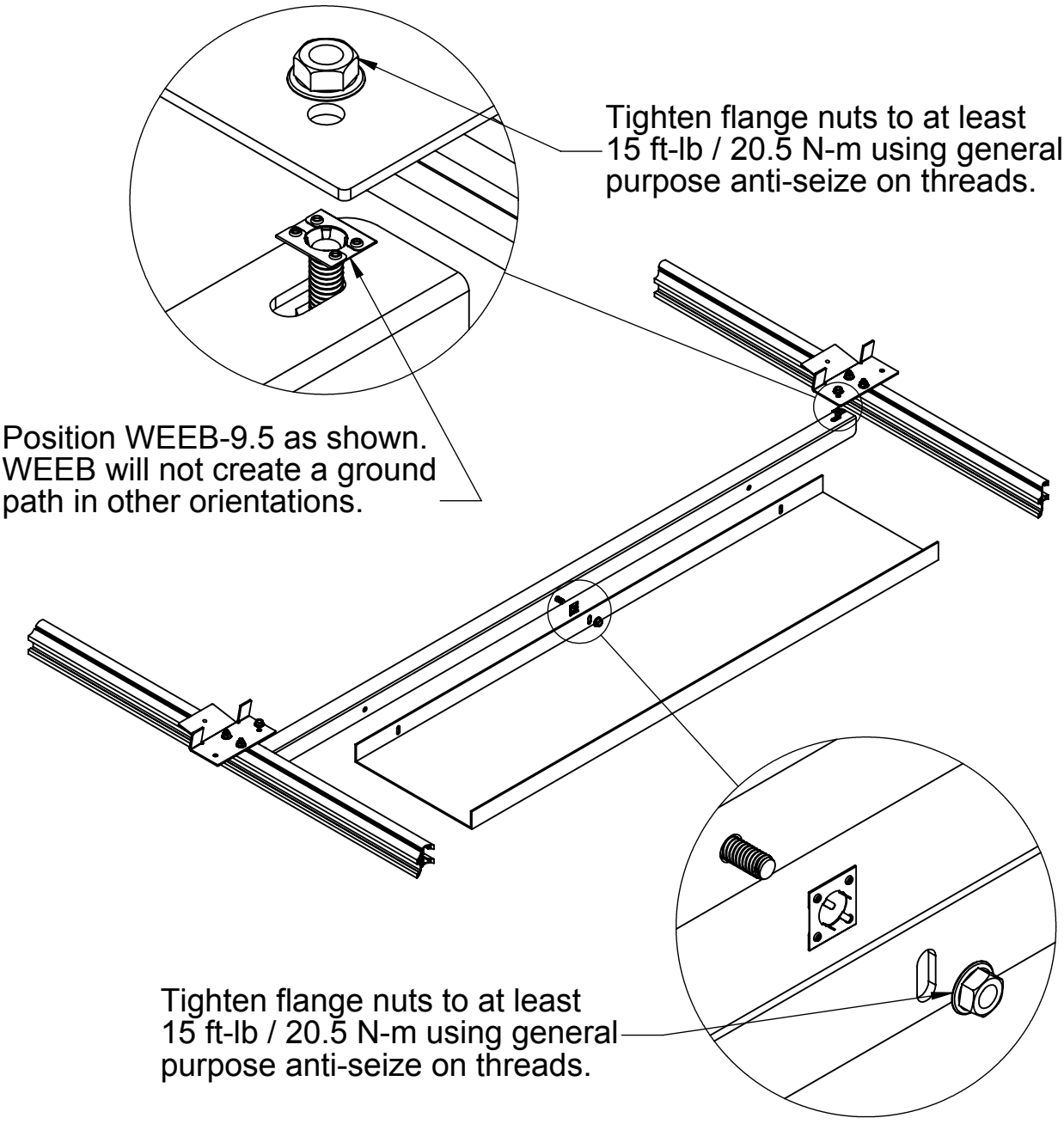
①



East-West Formed Angles

If running wire outside of conduit and in or along the E-W members or ballast tray, the E-W members and ballast trays must be grounded as shown below, or as shown on the next page.

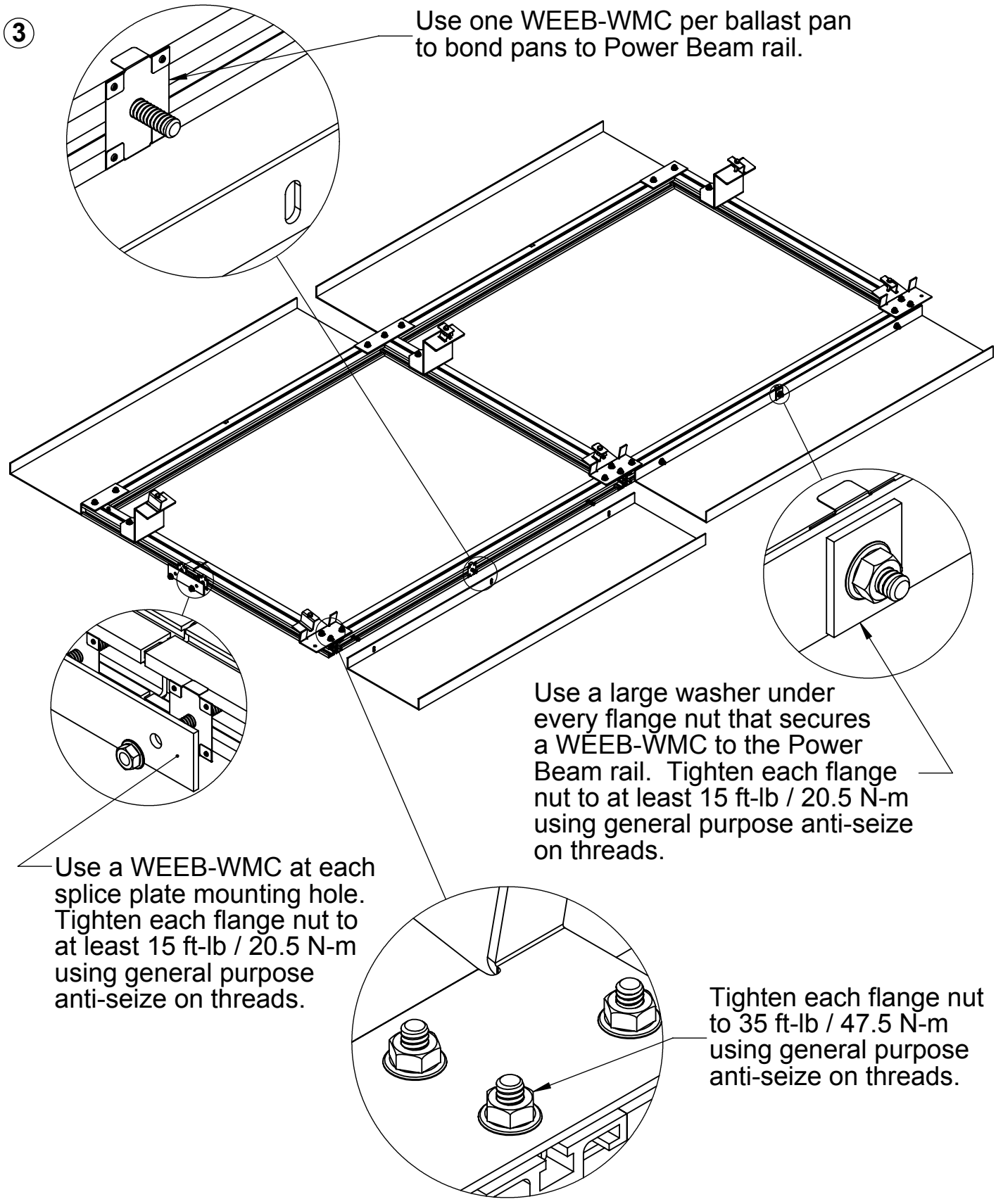
②



Use one WEEB-9.5 at every mounting point that joins the E-W formed angles to the mounting bracket. Place the WEEB-9.5 on the formed angle with the legs pointing down into the slot. The WEEB must be positioned perpendicular to the slot, to ensure proper bonding when the hardware is tightened. Where ballast pans are connected to the E-W formed angle, they may be connected to equipment ground by using one WEEB-11.5 at one of the connection points.

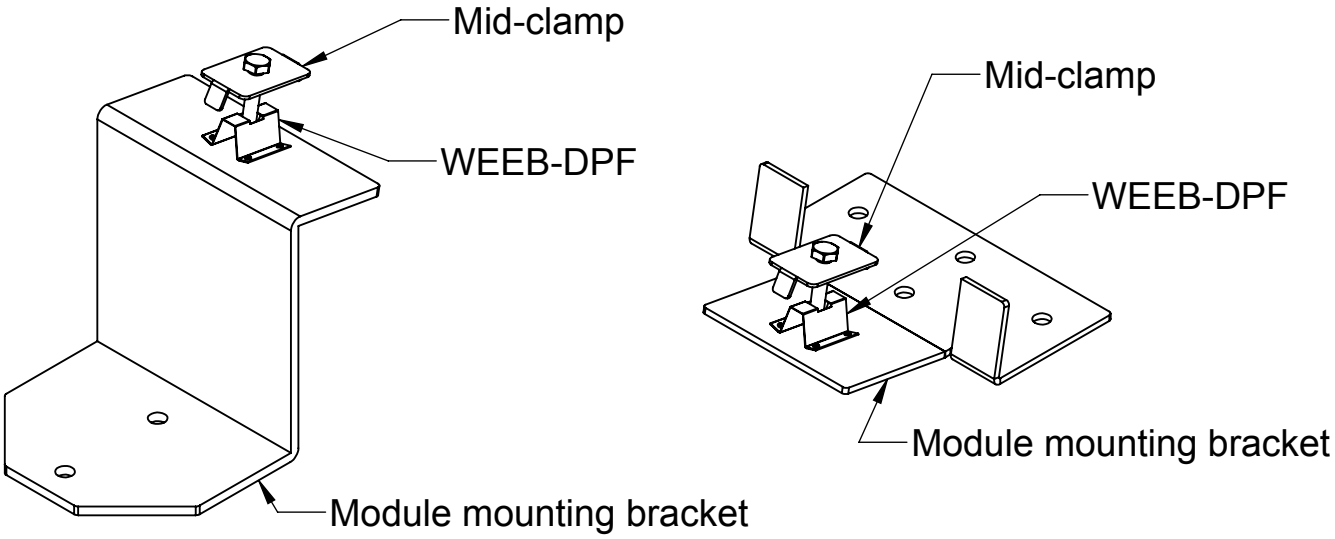
Ballast Pans and Rail Splices

If running wire outside of conduit and in or along the ballast tray, the ballast trays may be connected to equipment ground by using one WEEB-WMC at one of the connection points.



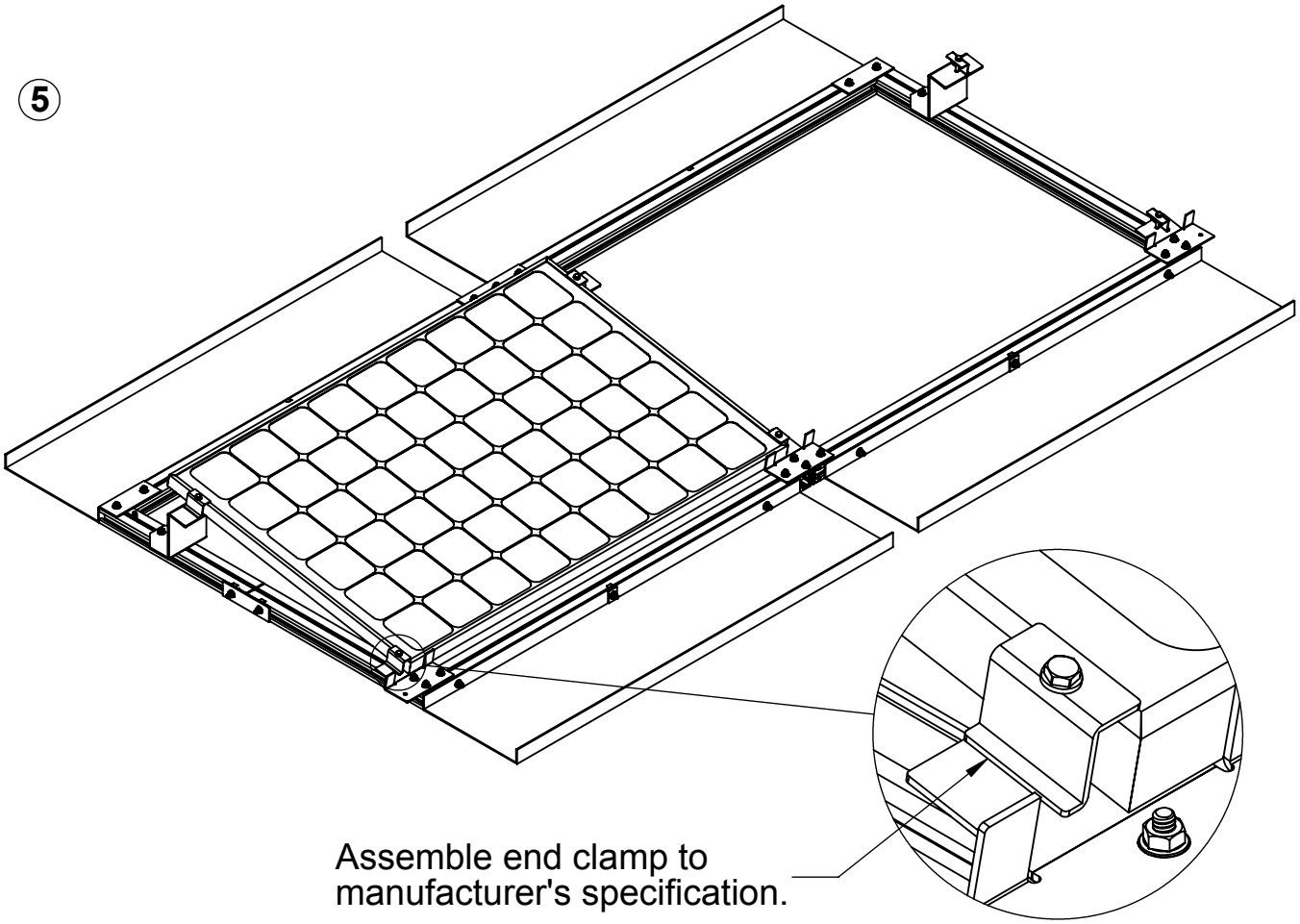
WEEB-DPF ASSEMBLY

④

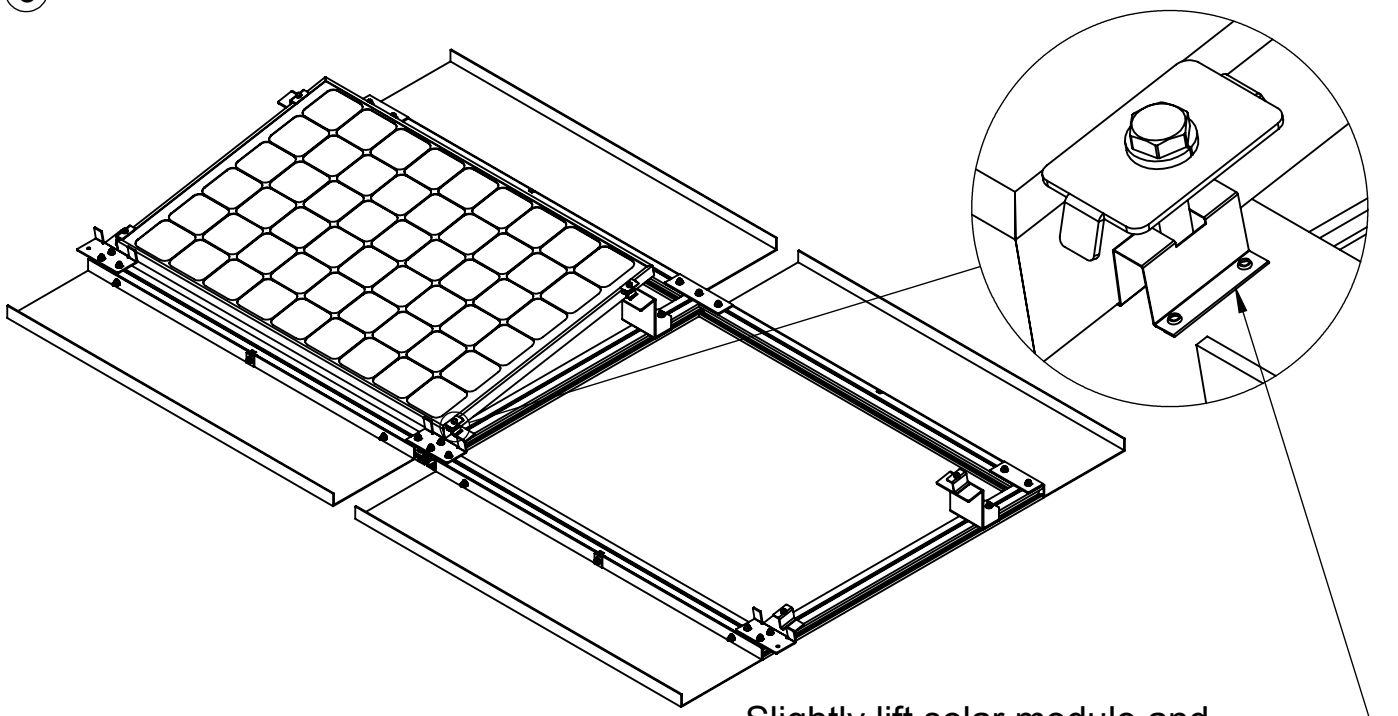


Pre-assemble WEEB-DPF to mid-clamp assembly as shown. Pre-assembling WEEB-DPF to mid-clamp assembly will contain the small individual parts, reducing the possibility of losing parts during installation.

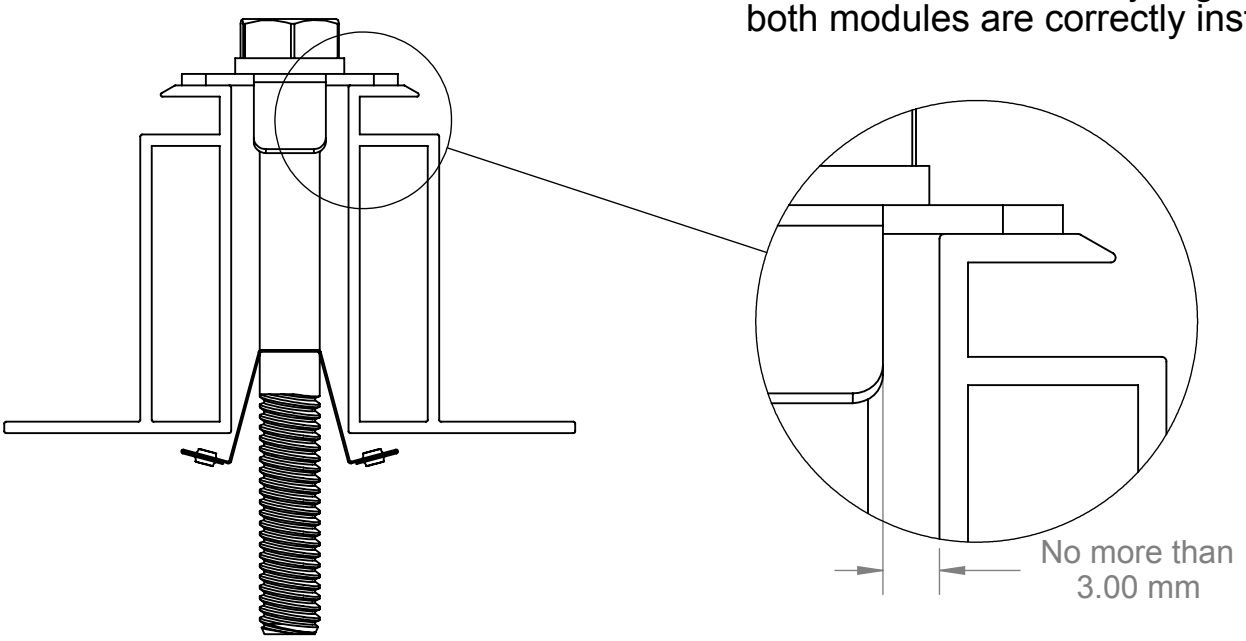
⑤



⑥



Slightly lift solar module and slide the teeth of the WEEB-DPF under the module. The edge of the WEEB will automatically align when both modules are correctly installed.

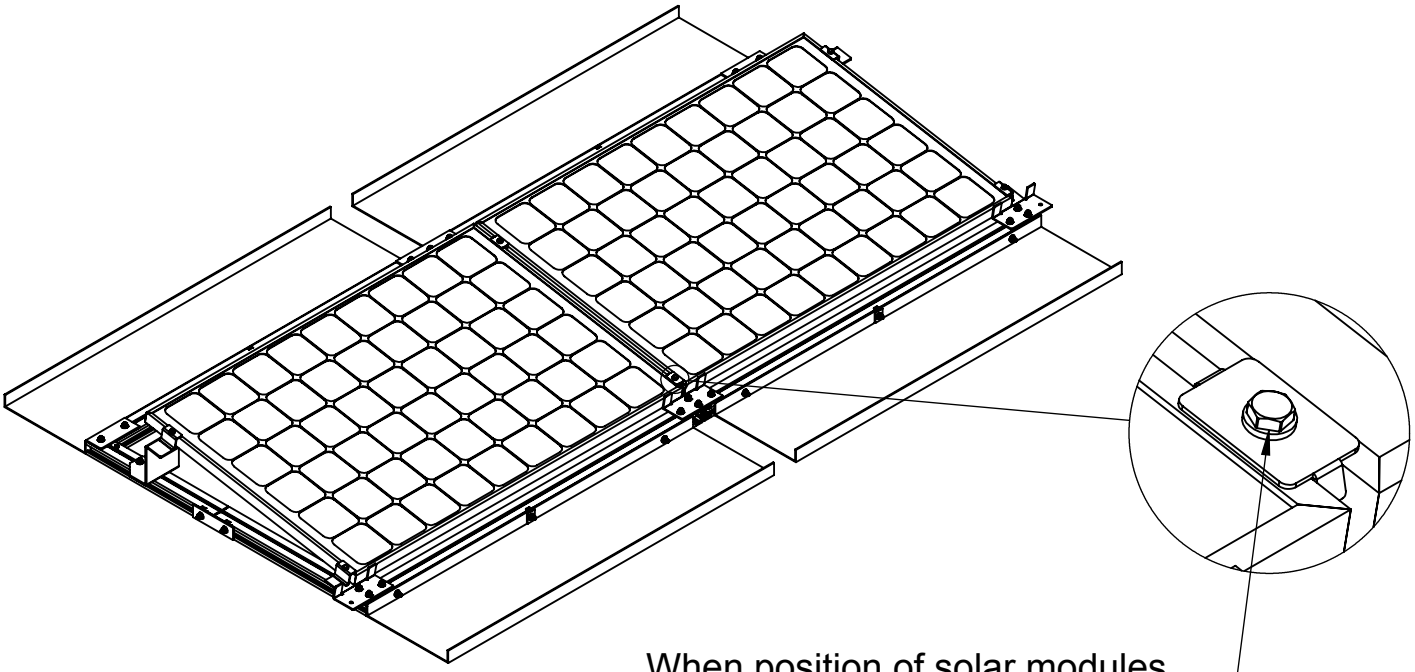


Important note:

To correctly install WEEB-DPF, each side of the mid-clamp must cover at least 135 mm² of the module frame. This means that there can be no more than 3.0 mm of space between the mid-clamp and the module frame. Check with the module manufacturer for any additional installation requirements.

⑦ Important note:

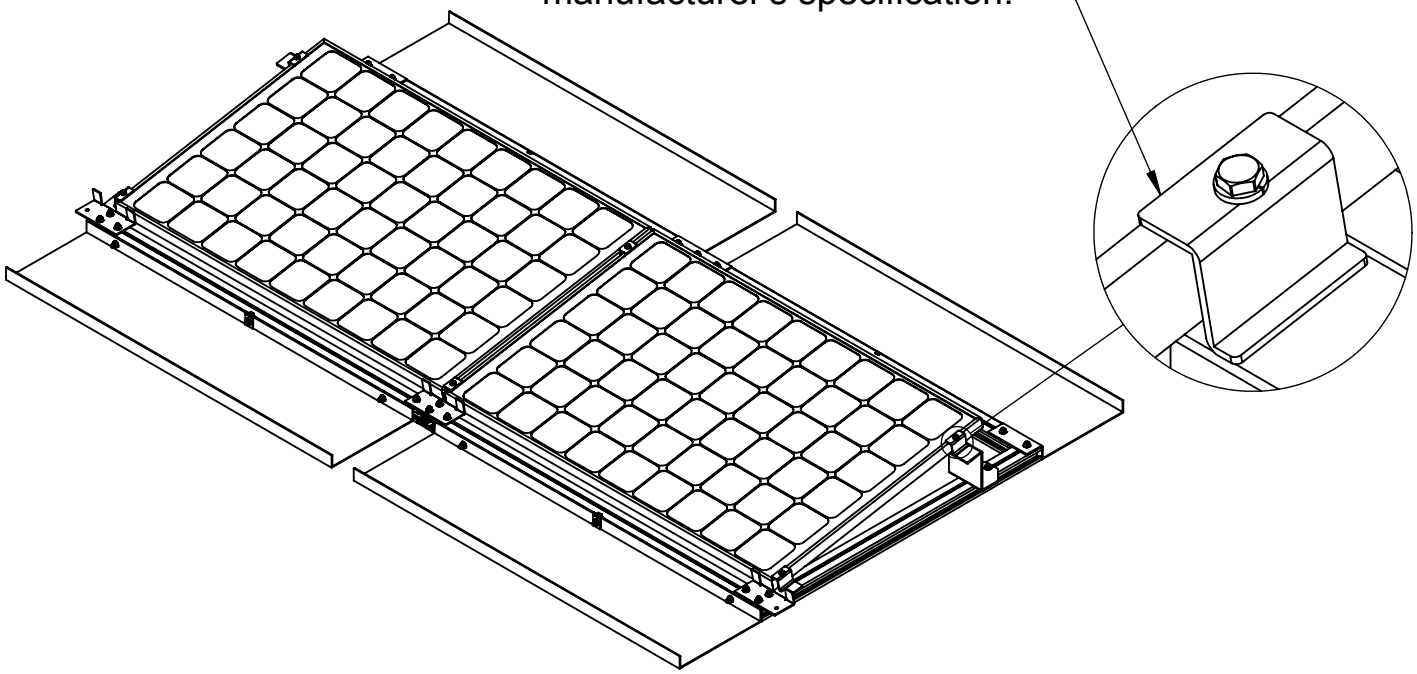
WEEBs are for SINGLE USE ONLY! Do not torque fasteners down if position of solar modules is not finalized. Only slightly tighten fasteners to keep modules in place.



When position of solar modules is finalized, torque fasteners to 15 ft-lb / 20.5 N-m using general purpose anti-seize on threads.

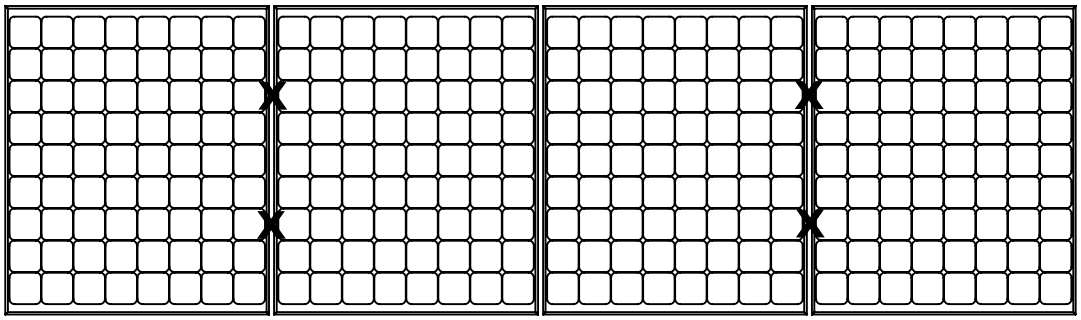
⑧

Assemble end clamp to manufacturer's specification.



WEEB-DPF LAYOUT

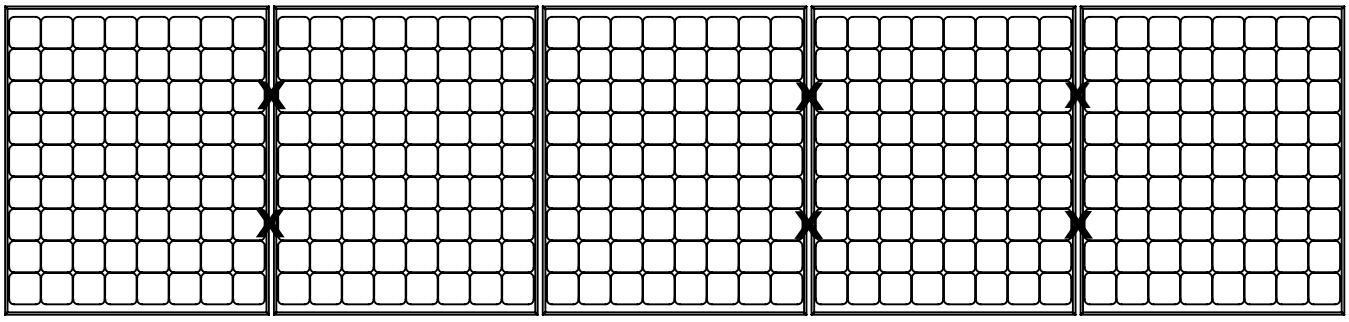
EVEN NUMBER OF MODULES IN ROW



X DENOTES PLACES TO INSTALL WEEB-DPF
C = Column
R = Row

C X R = 4 X 1
WEEB-DPF NEEDED = C X R = 4 X 1 = 4

ODD NUMBER OF MODULES IN ROW



X DENOTES PLACES TO INSTALL WEEB-DPF

C X R = 5 X 1
WEEB-DPF NEEDED = [C+1] X R = [5+1] X 1 = 6

Important Note:

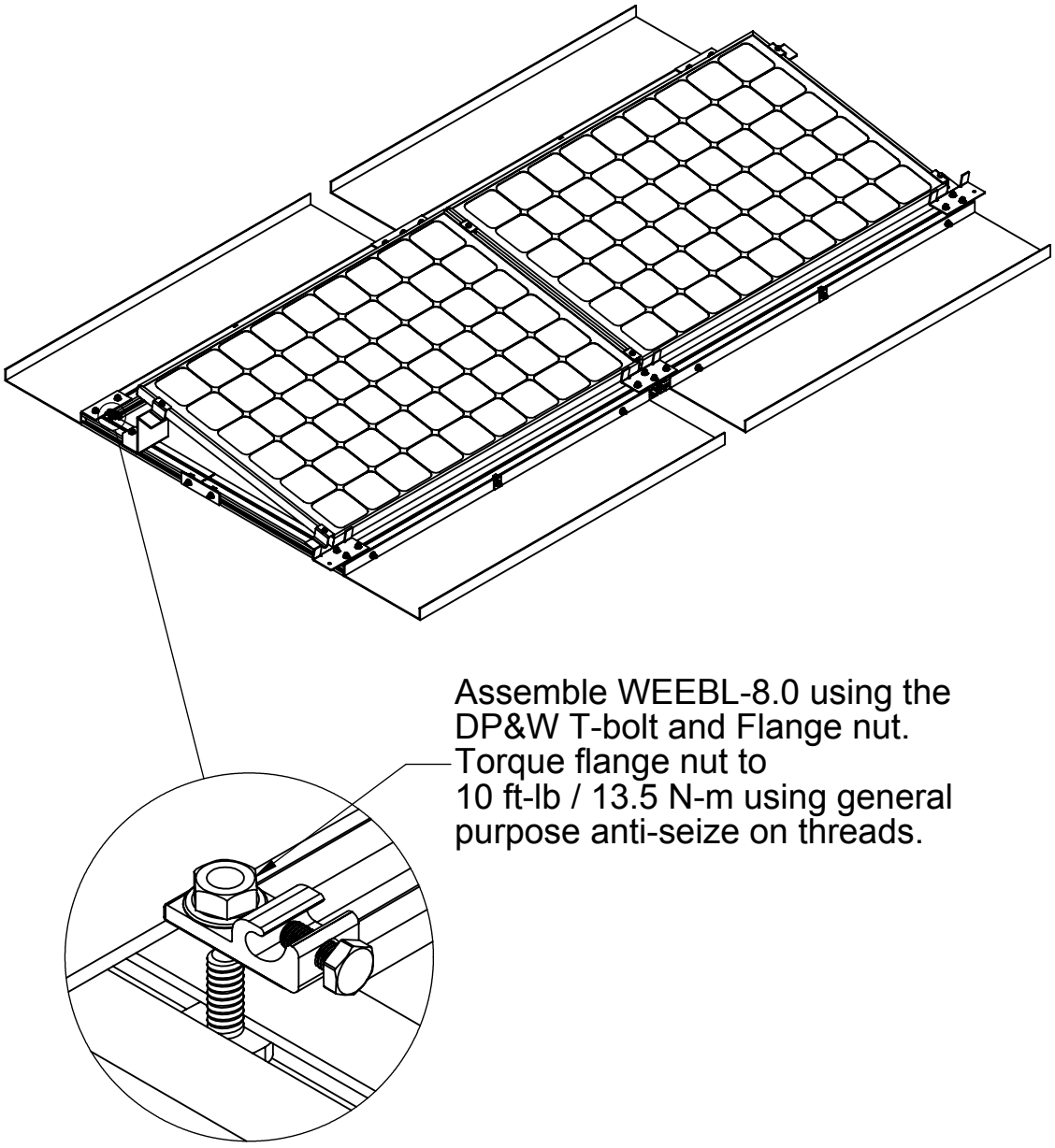
When replacing a single faulty module, also remove the adjacent module which contacts the same WEEBs as the faulty module. This will ensure that there are never ungrounded modules in the array.

WEEB QUANTITIES

WEEB	QUANTITY NEEDED
WEEB-DPF	• See calculations on previous page
WEEB-9.5	• 2 for every E-W Formed Aluminum Angle
WEEB-11.5	• At least 1 under every module tilt bracket (1 for every rail joined to the bracket) • 1 at every hole of every tie plate • 1 for every Ballast Pan connected to an E-W Formed Aluminum Angle
WEEB-WMC	• 2 for every 2-Hole Side Splice • 1 for every Ballast Pan connected to a Power Beam Extrusion

WEEBLUG ASSEMBLY

⑨



Important Notes:

The WEEB-8.0 that sits under the lug is for SINGLE USE ONLY! Ensure position is correct before tightening.

WEEBL-8.0 may be used with a maximum equipment ground wire of 6 AWG.

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