# Wiley Electronics LLC

## Washer, Electrical Equipment Bond
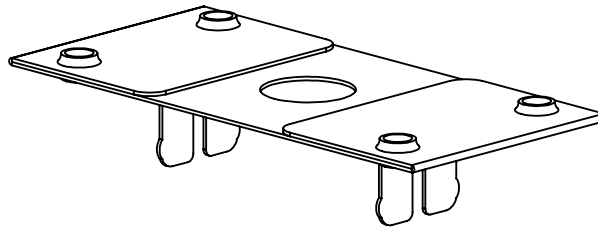
# WEEB
**Patent Pending**
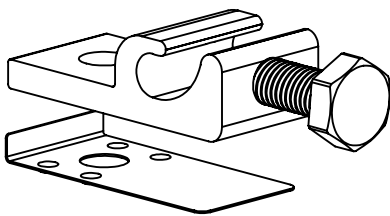
## INSTALLATION INSTRUCTIONS

# *For Unirac Solar Mount only*
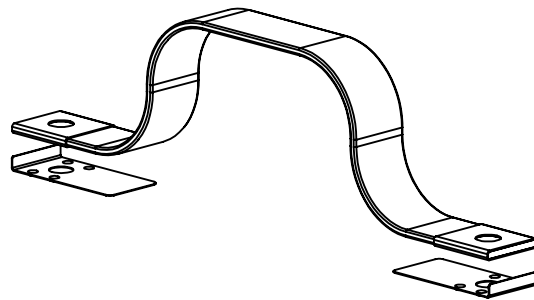## Please read carefully before installing.

**WEEB-UMC**

**WEEBL-6.7**

**WEEB Bonding Jumper-6.7**

**Intertek**
**3098177**

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

Document Number 104-0404-000010-012

# 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 WEEB-UMC is **only compatible with module frames that have a reinforcing box structure**, as illustrated below.
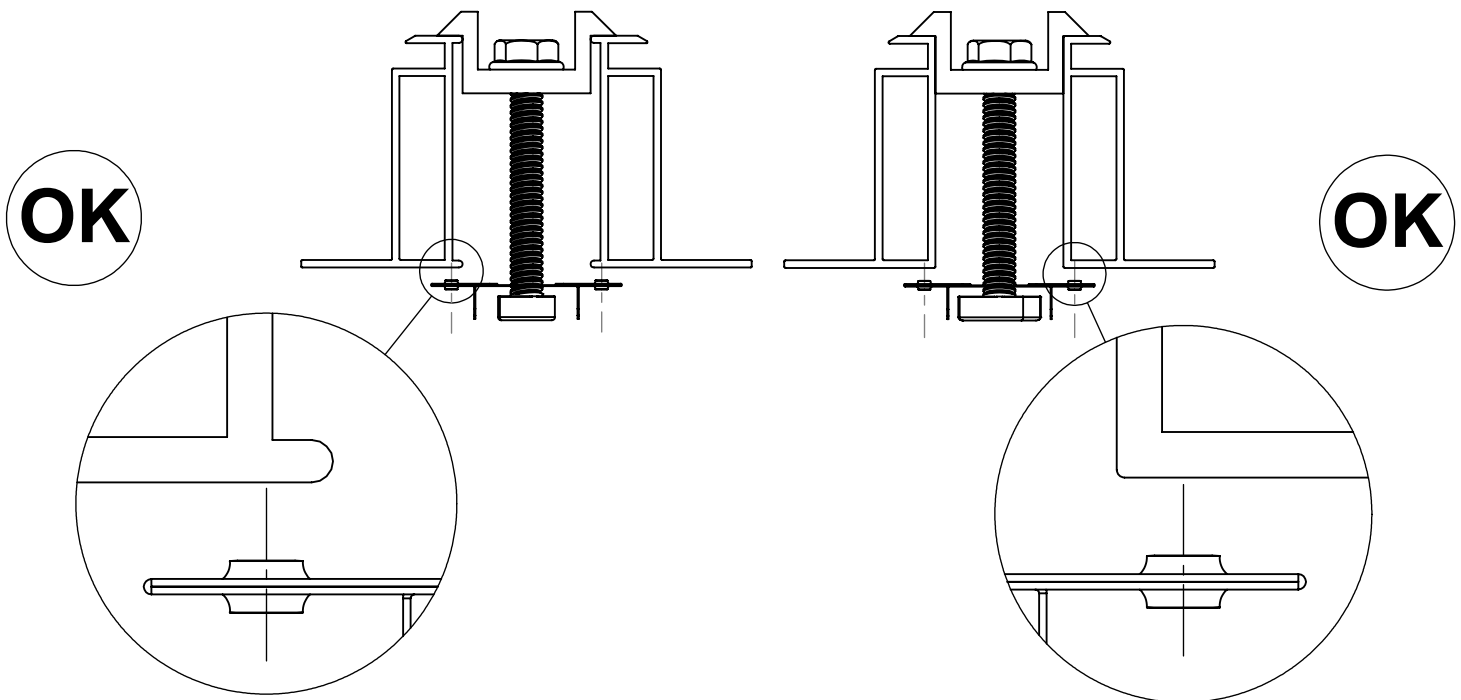
The follwoing is an example of a module frame that is incompatible with the WEEB. The WEEB teeth are positioned only partially under the edge of the module due to the lip on the top edge of the module frame.
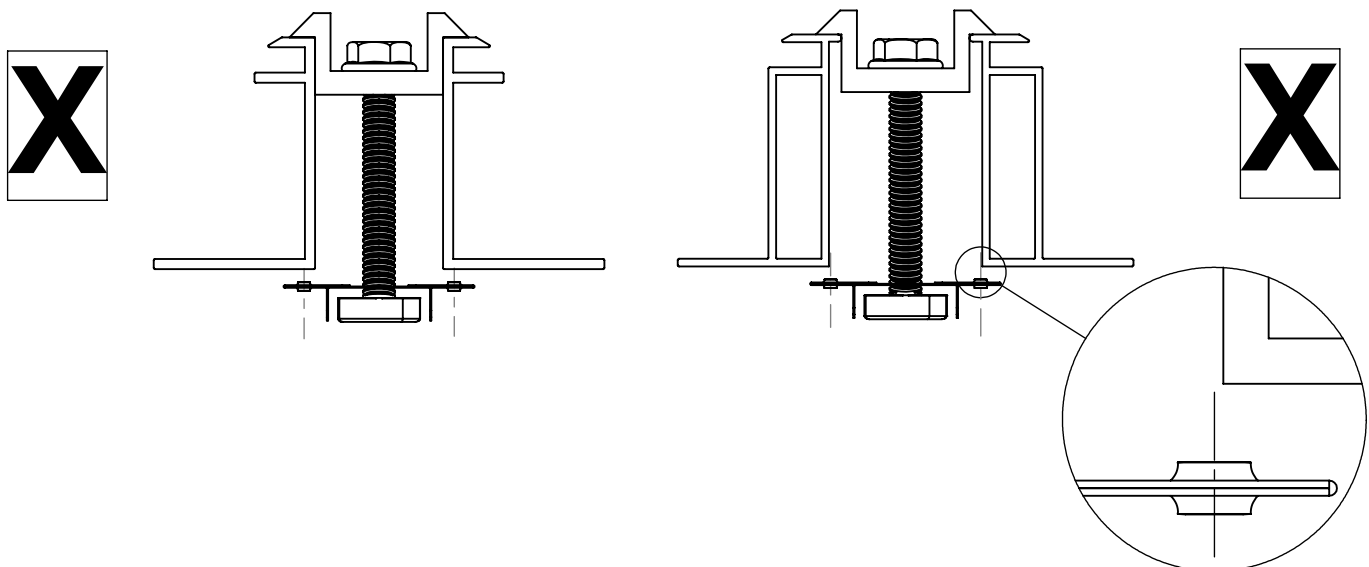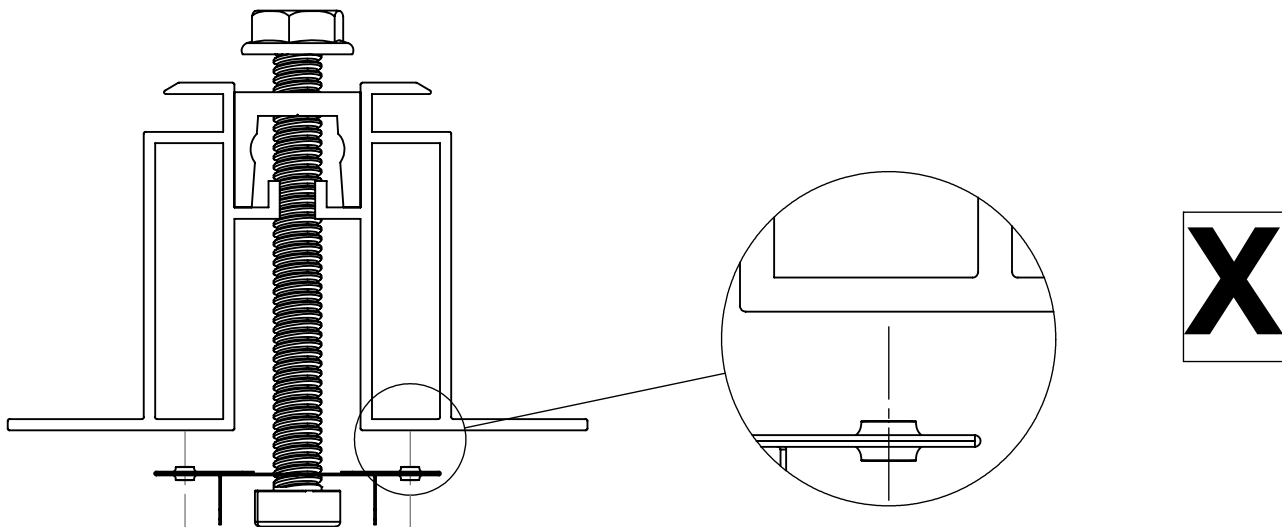
## Top Down Clamps for Lipped Modules

The following are a few variations of lipped solar modules mounted with inverted U-shaped clamps. The low-lipped module requires use of the WEEB-DMC instead of the WEEB-UMC. Notice that the force which the inverted U-shaped clamp exerts is in line with the WEEB teeth.
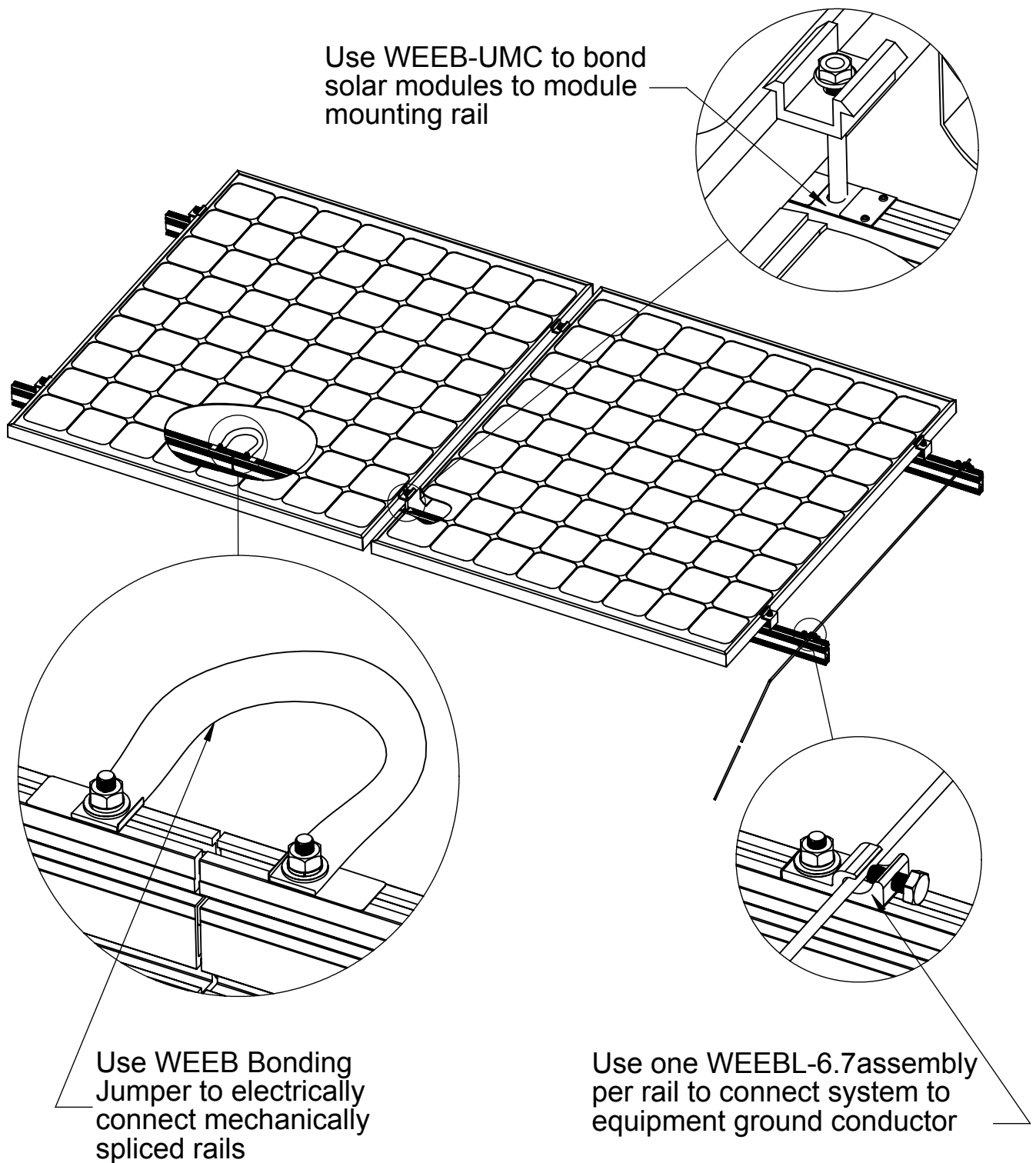
WEEB-DMC

**OK**
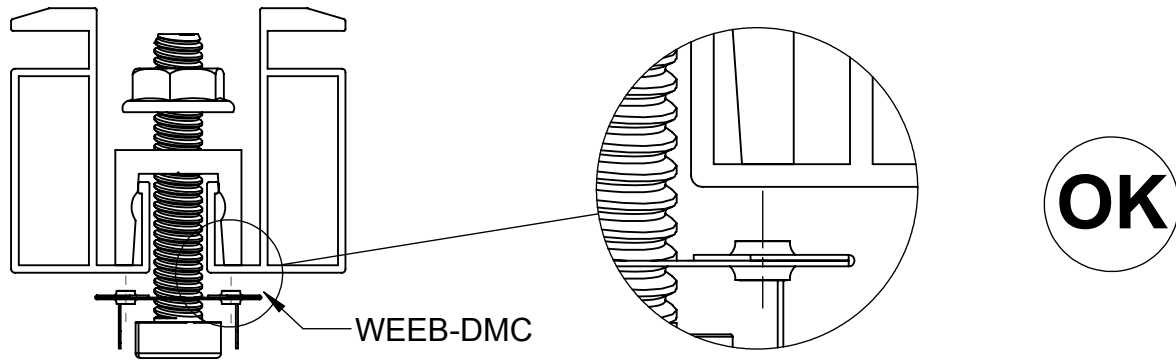
**Low-Lipped Module**

WEEB-UMC is not compatible with high lipped modules. The WEEB teeth are not in line with the force of the inverted U-shaped clamps, with the result that the WEEB teeth do not embed properly.

**X**

**High-Lipped Module**

# SYSTEM OVERVIEW

Use WEEB-UMC to bond solar modules to module mounting rail

Use WEEB Bonding Jumper to electrically connect mechanically spliced rails

Use one WEEBL-6.7assembly per rail to connect system to equipment ground conductor

## Important notes:

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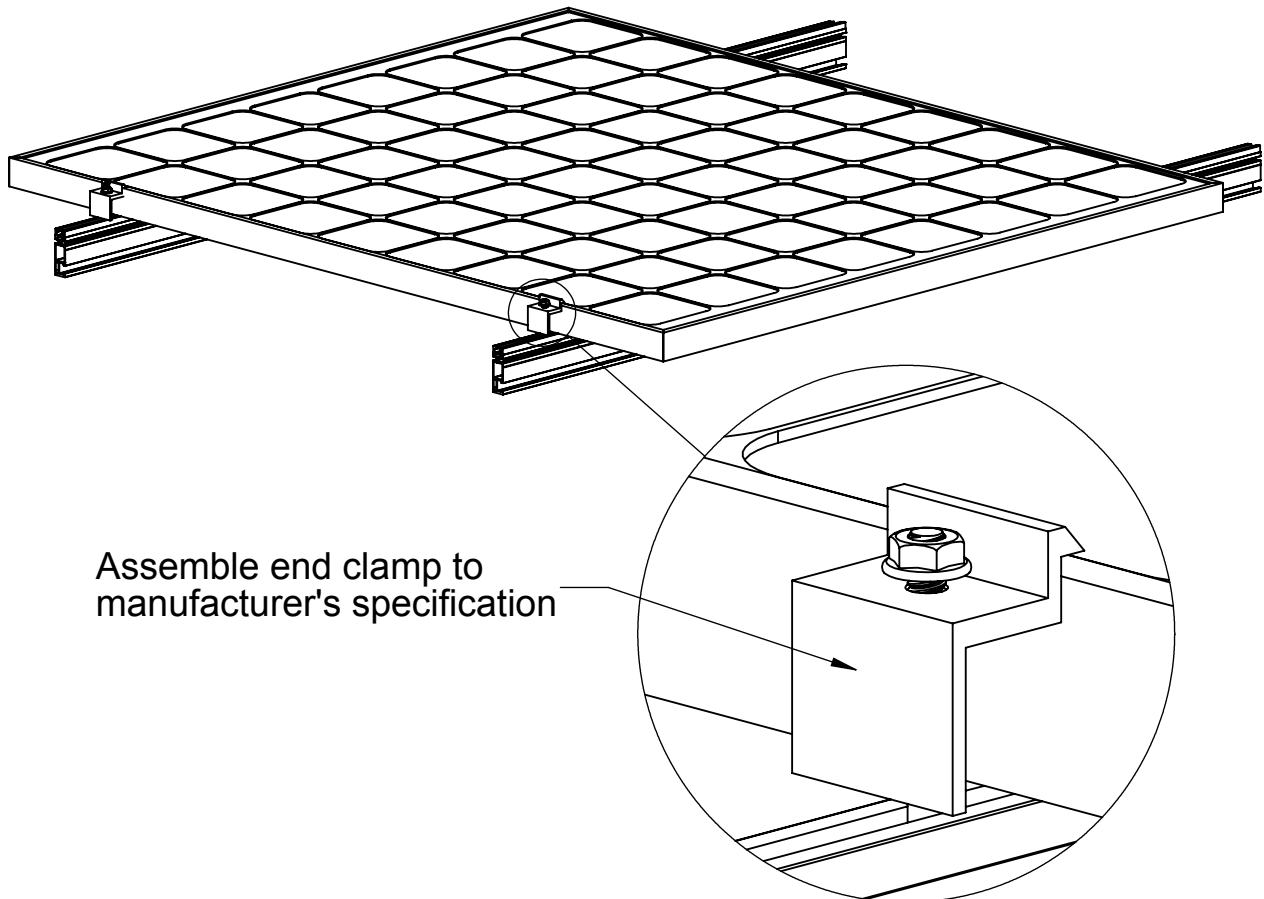
# WEEB-UMC ASSEMBLY

**1**

Nut

Mid Clamp

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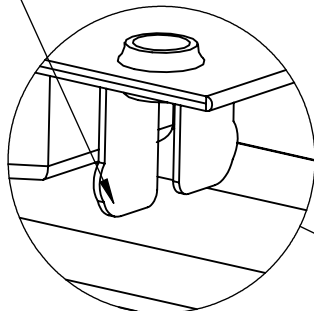
WEEB-UMC

T-bolt

**2**
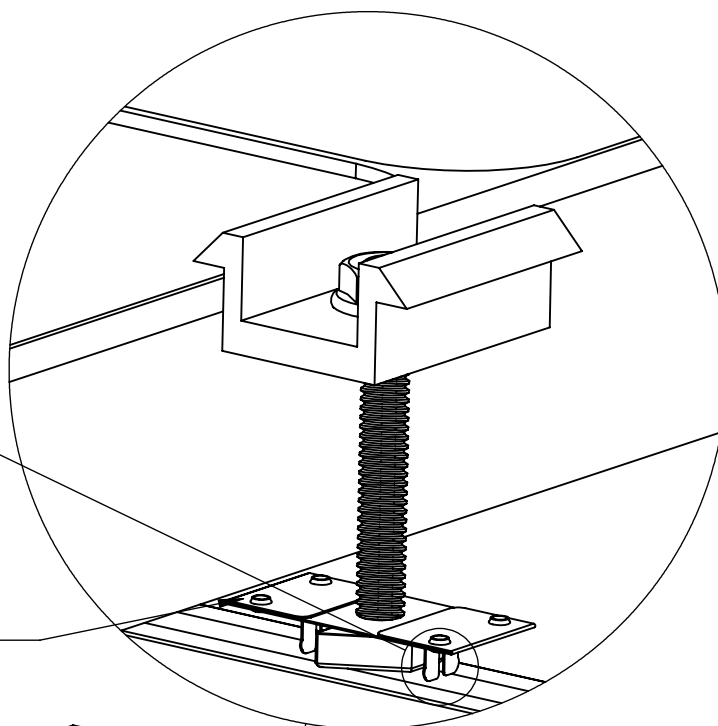
Assemble end clamp to manufacturer's specification
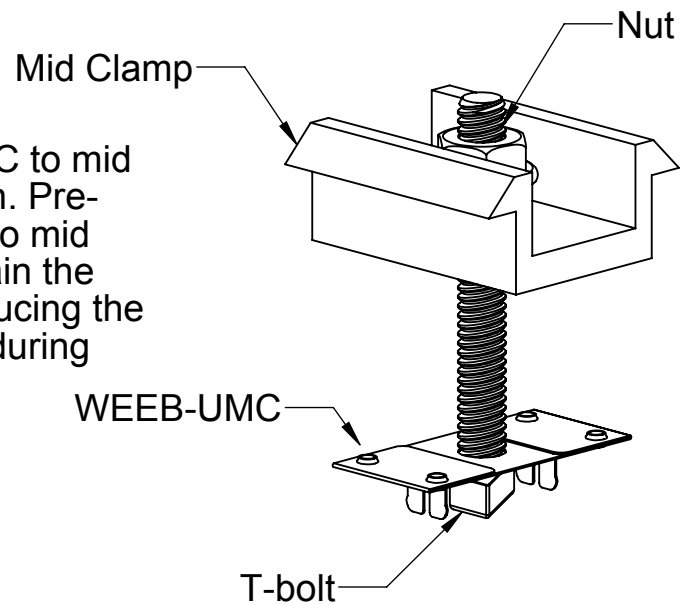
(3)

Spring retention tabs
hold WEEB-UMC and
mid-clamp assembly
securely onto
mounting rail

Drop in T-bolt and
snap WEEB-UMC
on to mounting rail

Slightly lift solar module and
slide WEEB-UMC and mid
clamp assembly into position.
WEEB teeth will automatically
be aligned under the edge of the
module when mid clamp
assembly is correctly installed.
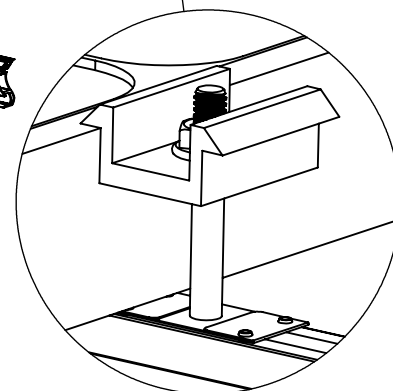
## Important note:

**To correctly install mid clamp assembly, ensure that the T-bolt is perpendicular to the mounting rail and both sides of the solar modules are completely positioned against the mid clamp.  Refer to WEEB compatibility page for illustrations.**
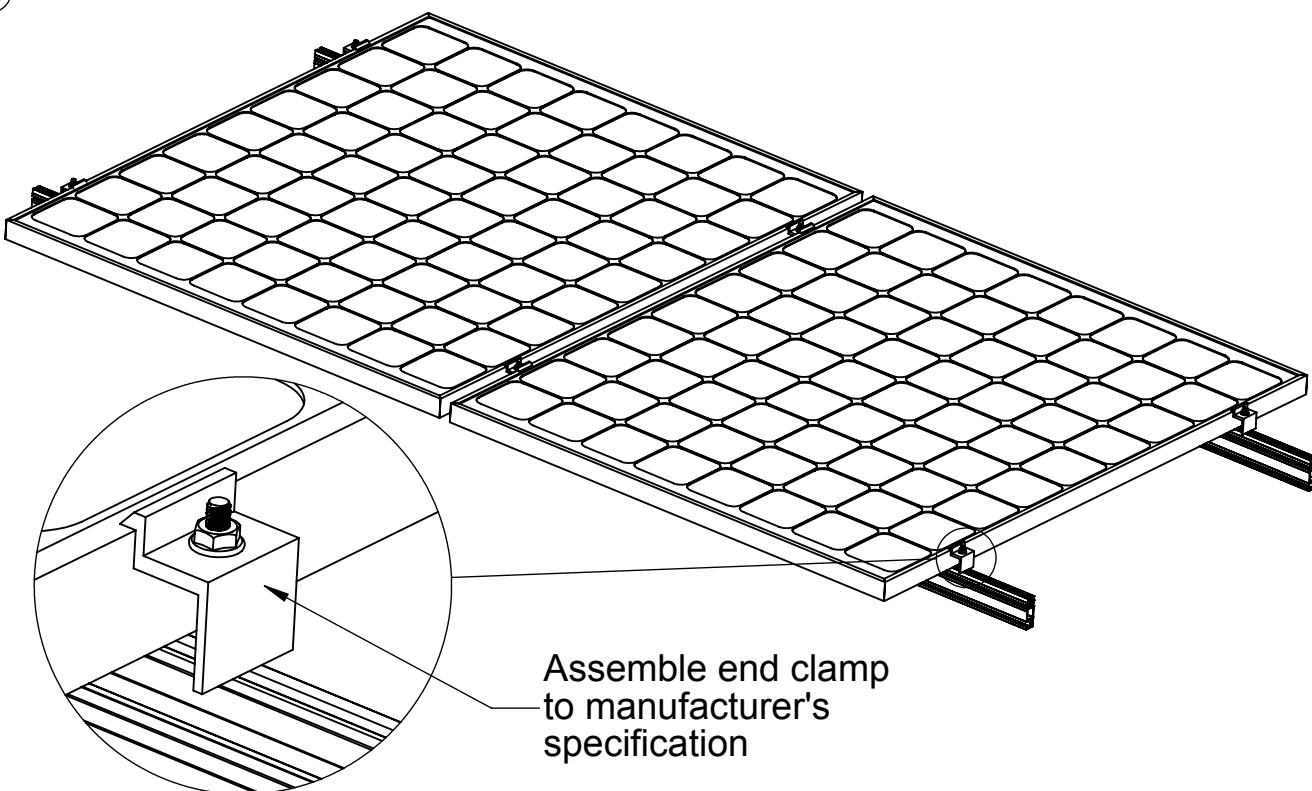
④ **Important note:**
**WEEBs are for SINGLE USE ONLY! Do not torque fasteners down if position of solar modules is not finalized. Only slighty tighten fasteners to keep modules in place.**
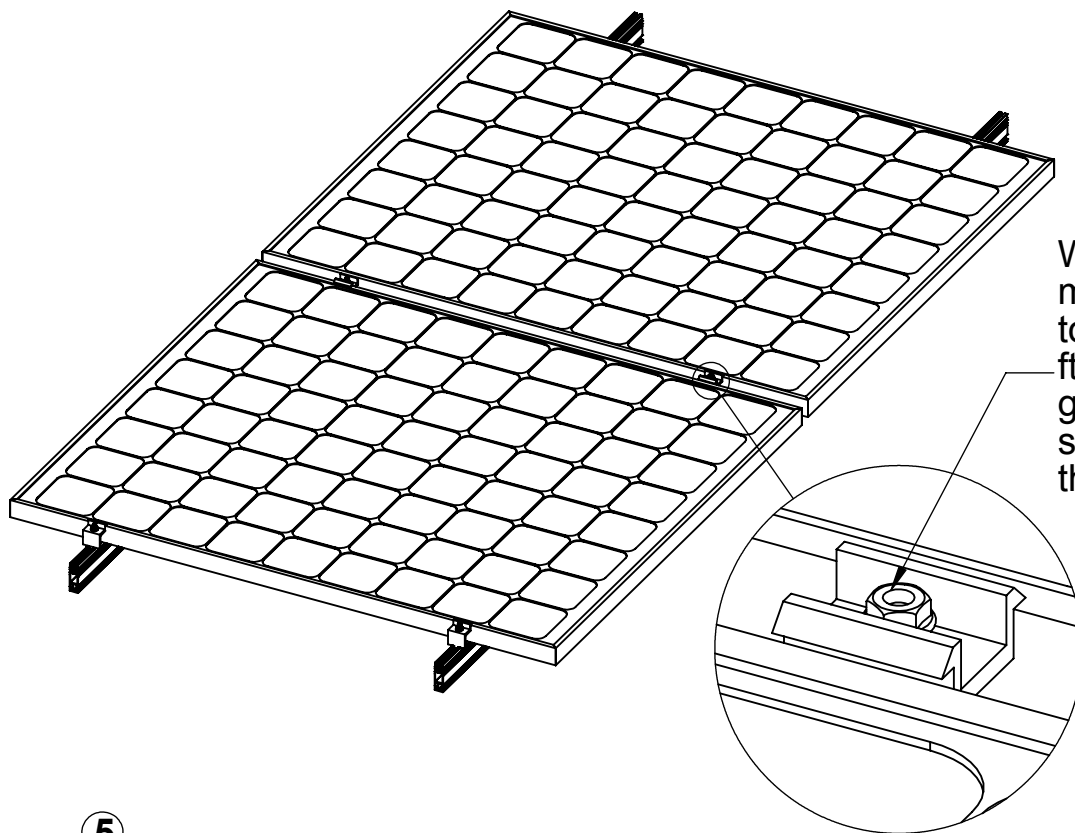
When position of solar modules are finalized, torque fasteners to 10 ft-lb / 13.5 N-m using general purpose anti-seize compound on threads
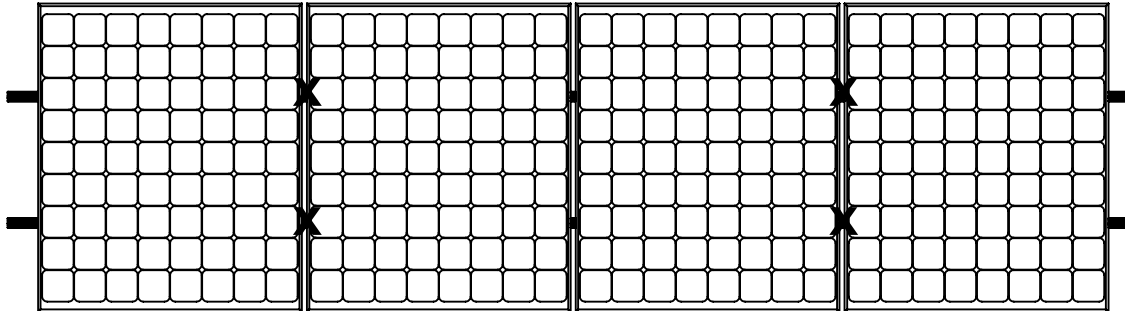
⑤

Assemble end clamp to manufacturer's specification

# WEEB-UMC LAYOUT

⑥
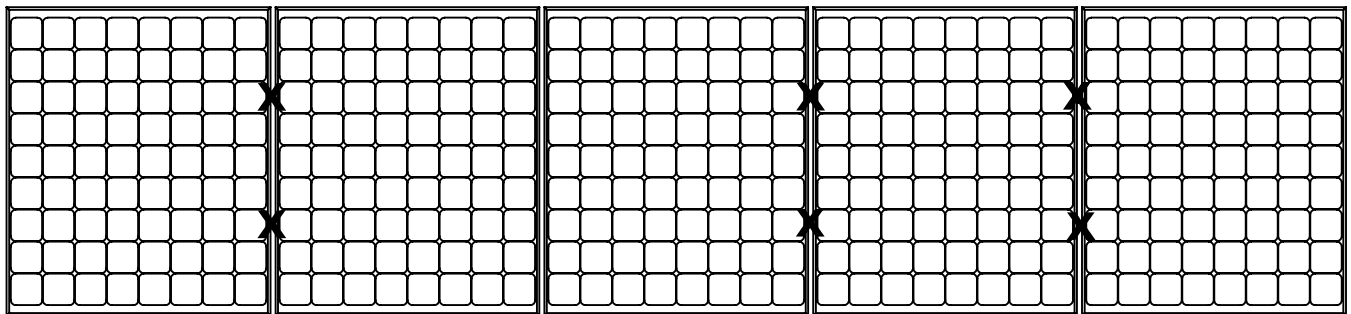
## EVEN NUMBER OF MODULES IN ROW

**X** DENOTES PLACES TO INSTALL WEEB-UMC

C X R = 4 X 1
WEEB-UMC NEEDED = C X R = 4 X 1 = **4**

## ODD NUMBER OF MODULES IN ROW

**X** DENOTES PLACES TO INSTALL WEEB-UMC

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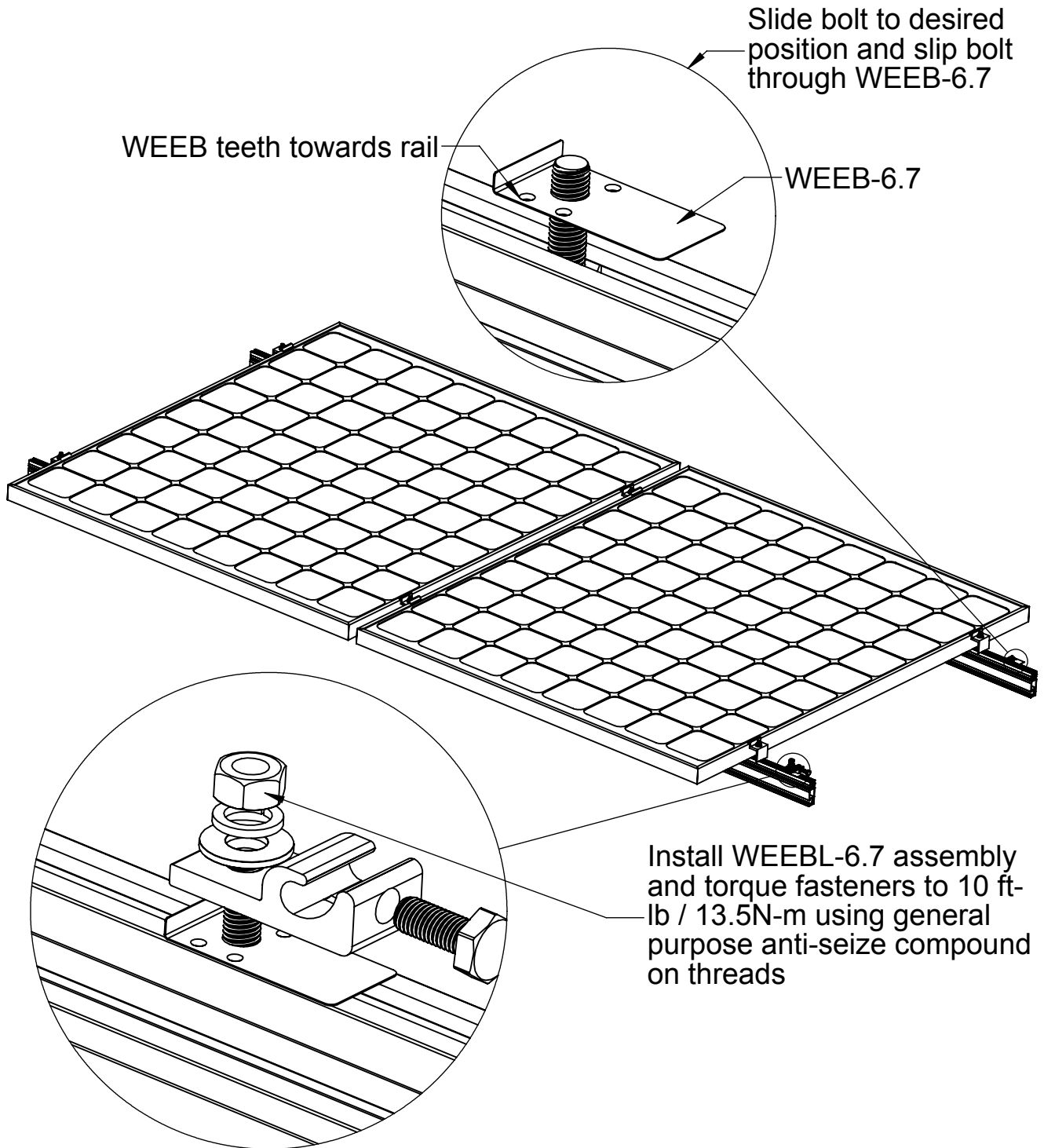WEEB-UMC NEEDED = [C+1] X R = [5+1] X 1 = **6**

## 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.**

# WEEBLUG ASSEMBLY

⑦

Slide bolt to desired position and slip bolt through WEEB-6.7

WEEB teeth towards rail

WEEB-6.7

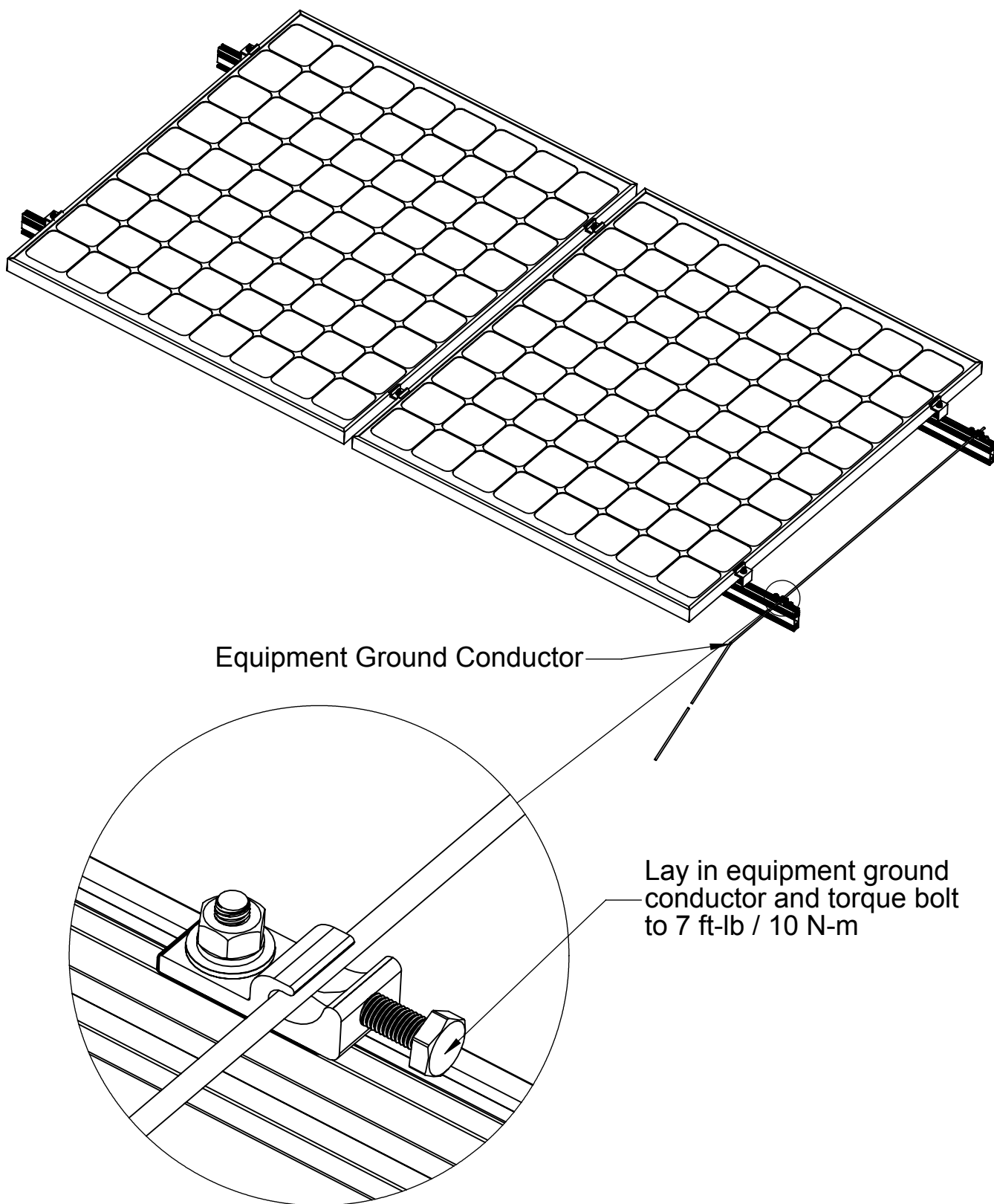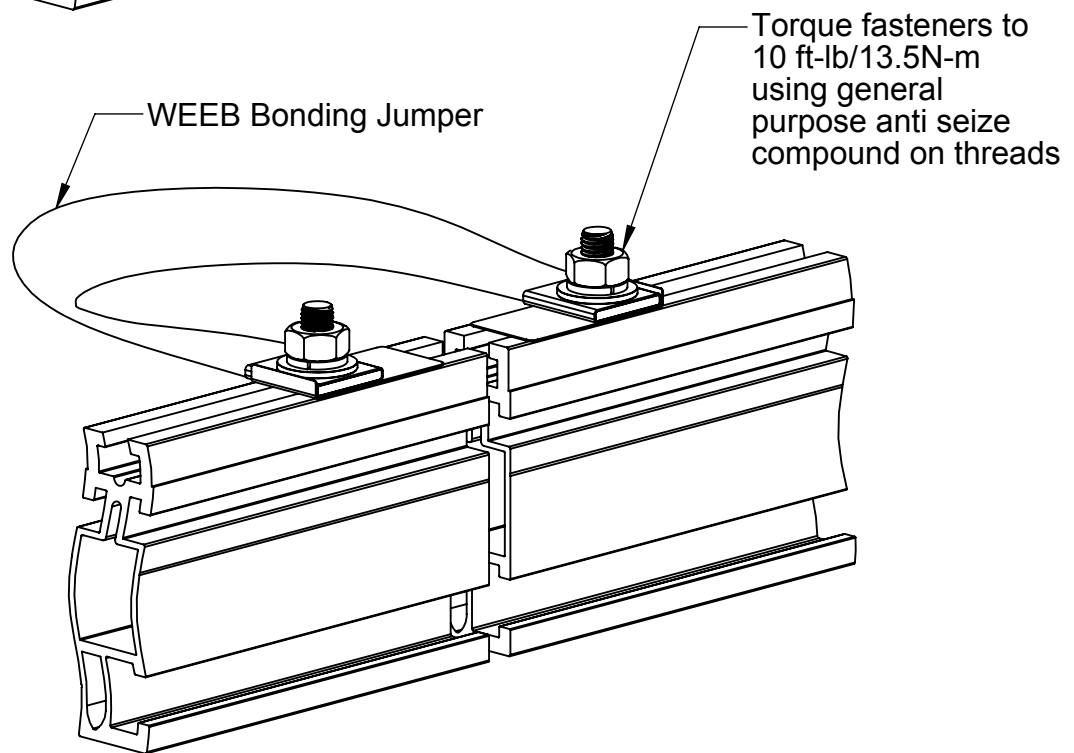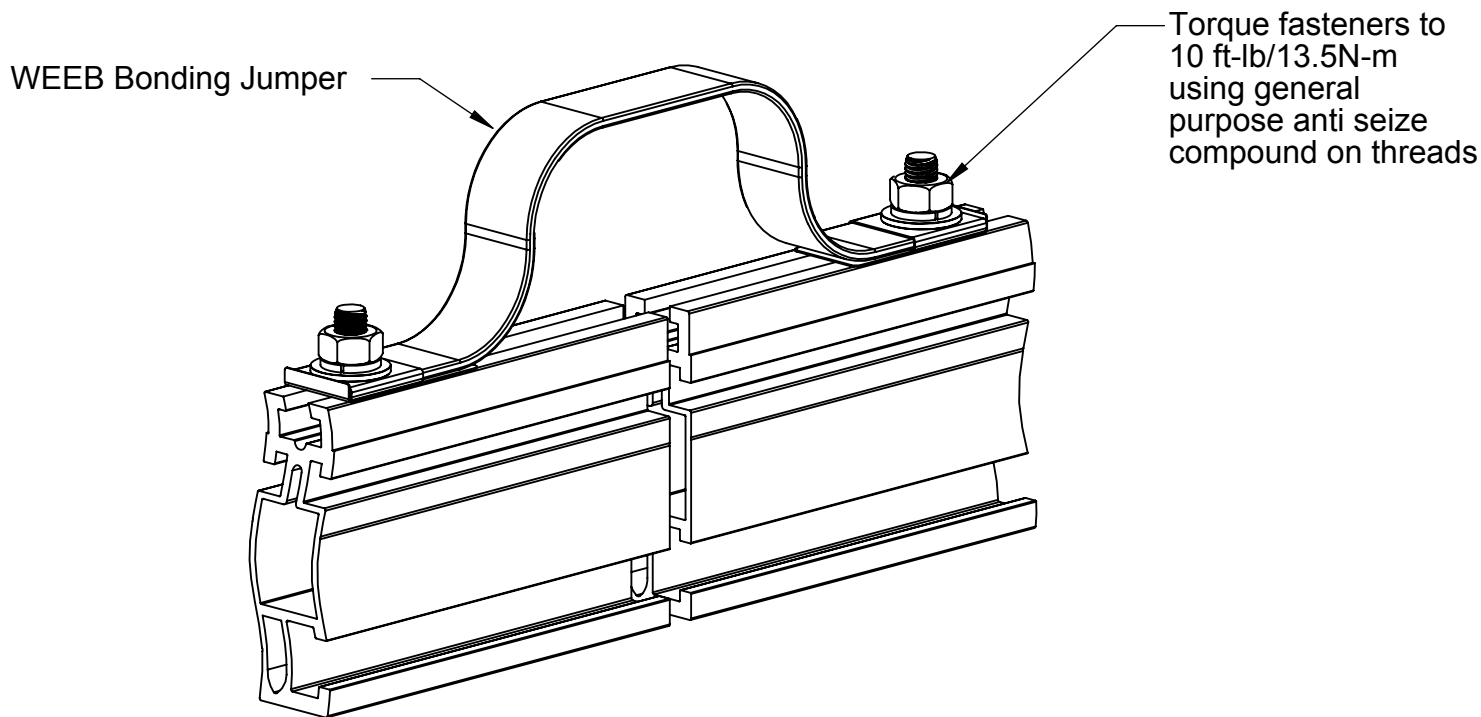Install WEEBL-6.7 assembly and torque fasteners to 10 ft-lb / 13.5N-m using general purpose anti-seize compound on threads

## Important note:
**WEEB-6.7 that sits under the WEEBLug is for single use only. Ensure position is correct before tightening down.**

Equipment Ground Conductor

Lay in equipment ground
conductor and torque bolt
to 7 ft-lb / 10 N-m

# UMC SPLICE KIT ASSEMBLY

**⑨** The flexible WEEB Bonding Jumper can be mounted in different ways shown below.

WEEB Bonding Jumper

Torque fasteners to
10 ft-lb/13.5N-m
using general
purpose anti seize
compound on threads

Torque fasteners to
10 ft-lb/13.5N-m
using general
purpose anti seize
compound on threads
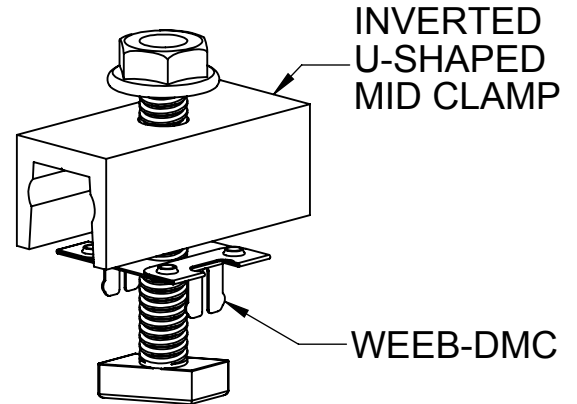
WEEB Bonding Jumper

Route WEEB Bonding Jumper as shown above if edge of solar module lands between two spliced rails.

# LOW-LIPPED MODULE INSTALLATION

(10)

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

INVERTED U-SHAPED MID CLAMP

WEEB-DMC

(11)

Torque to 10 ft-lb / 13.5 N-m using general purpose anti-seize compound on threads

INVERTED U-SHAPED MID CLAMP

WEEB-DMC