SOLAR MOUNTS LLC
POST DRIVEN GROUND MOUNT INSTALLATION MANUAL

TABLE OF CONTENTS

SAFETY INFORMATION

General Safety Guidelines

- Only trained personnel should perform installations.
- Always follow OSHA guidelines for fall protection and workplace safety.
- Wear appropriate PPE, including Hard hat, safety glasses, gloves, steel-toed boots, and harnesses where applicable.

Equipment Safety

- Inspect tools and equipment before use.
- Use caution when operating heavy machinery like skid steers and post drivers.

Hazard Warnings

- Be mindful of overhead power lines when lifting materials.
- Secure all materials properly to prevent tipping or falling.

TOOLS & EQUIPMENT REQUIRED

Hand Tools

- Impact Driver
- Torque Wrench
- Solar Mounts V-Clamp or Needle Nose Pliers
- 15/16” Socket for 5/8” Bolt
- 1/2” Socket for 5/16” Bolt
- 3/4" Socket for 1/2" Bolt
- 15/16” Combination Wrench
- 3/4" Combination Wrench
- 1/2" Combination Wrench

Equipment

- Skid Steer (off-load materials with forks)
- Post Driver (post-pounding attachment)

PRE-INSTALLATION GUIDANCE

Working with Miss Dig

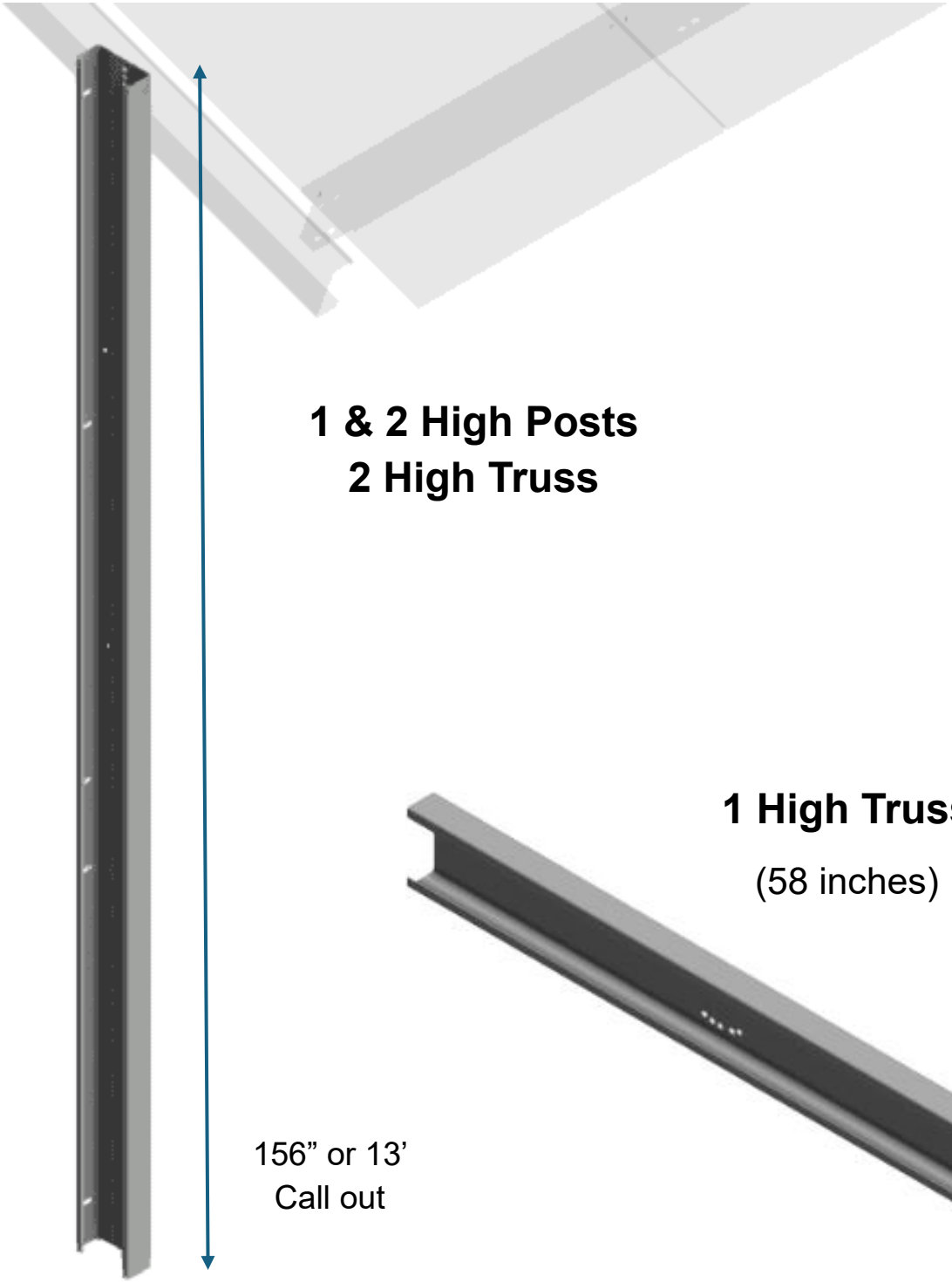
Contractors must call (811, Miss Dig) before they dig . This is typically a free service provided by the local utility company. More detailed surveys of underground utility lines, phone lines, fiber optics, water lines, etc. can be conducted using ground penetrating radar (GPR) devices.

GPR and LiDAR Data

Miss Dig is recommended for identifying and tracing public utility power lines. However, even greater detail can be gained by deploying your own ground penetrating radar (GPR) devices. GPR devices (e.g., US Radar, GSSI) can provide detailed information about private utilities, shallow and deep obstructions, as well as accurate tracing of utility lines, water lines, fiber optics, telephone lines and more. GPR can provide up to 1 cm of accuracy although 5 cm is common with the addition of GPS (GNSS).

LiDAR devices are getting smaller and more accurate. These devices can be carried by drones and provide contractors with very accurate elevations and identification of above-ground contours, as well as detailed locating capabilities that can be transferred to construction drawings for the site.

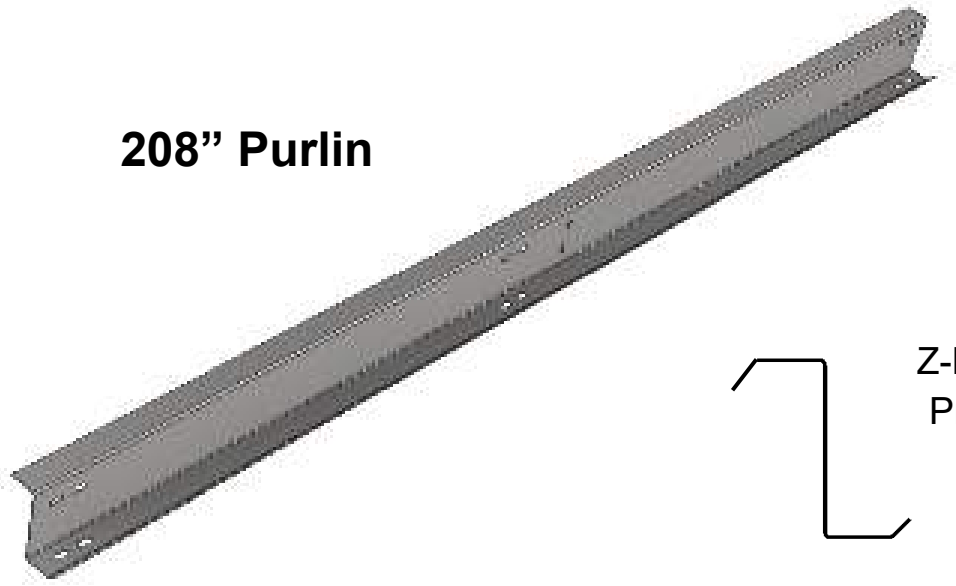
POST DRIVEN GROUND MOUNT: MAIN COMPONENTS



POST DRIVEN GROUND MOUNT: MAIN COMPONENTS

Purlin Stiffener

208” Purlin

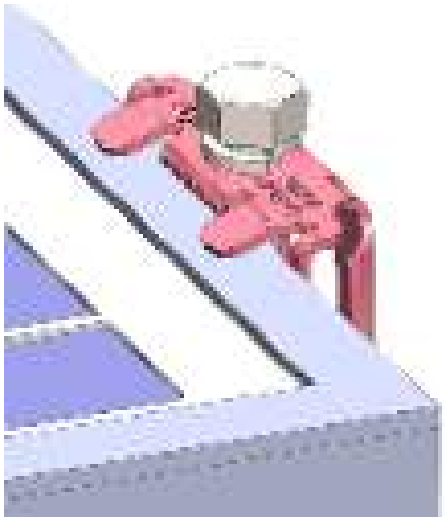


Z-Purlin Profile

POST DRIVEN GROUND MOUNT: MAIN COMPONENTS

Mid-Clamp

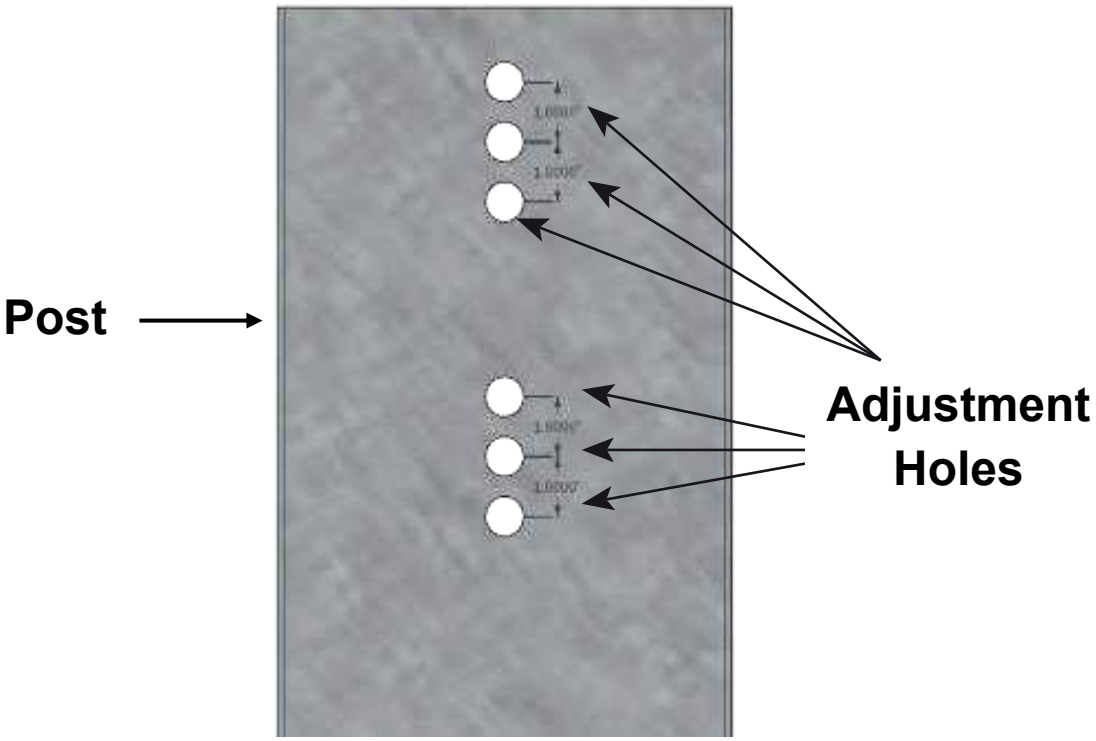
End Clamp



POST ORIENTATION AND ANGLES

The elevation of the truss can be adjusted using corresponding holes for correcting elevation and depth issues in the post pounding

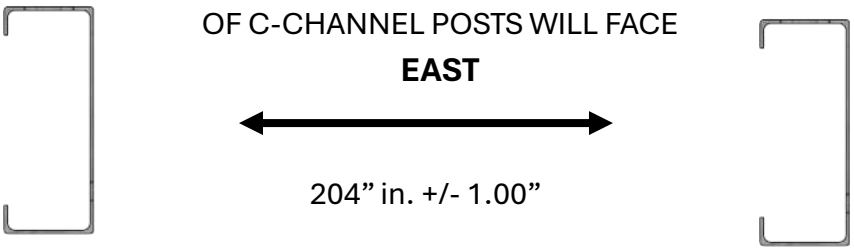
Adjustments are made in 1” increments



POST ORIENTATION AND ANGLES

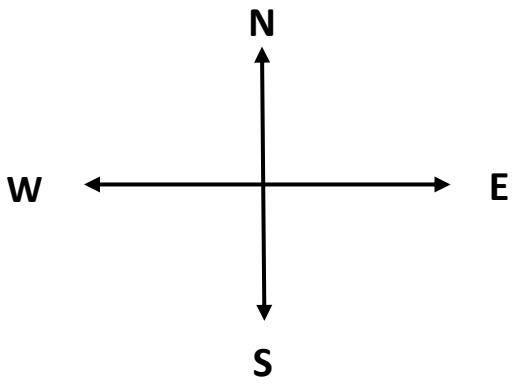
IF DESIRED ANGLE IS

0°, 10°, 20°, 30°, OR 40°, FLAT SIDE OF C-CHANNEL POSTS WILL FACE **EAST**



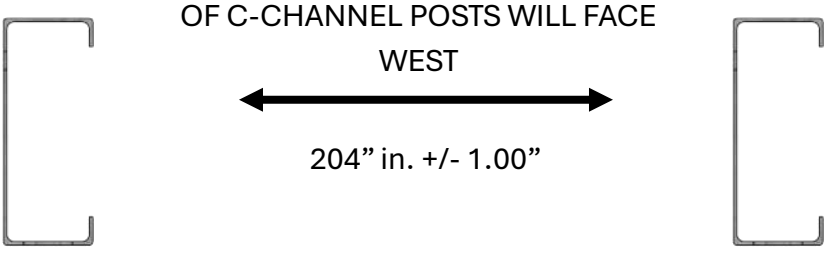
204” in. +/- 1.00”

CENTER TO CENTER OR FACE TO FACE



IF DESIRED ANGLE IS

5°, 15°, 25°, 35°, OR 45°, FLAT SIDE OF C-CHANNEL POSTS WILL FACE WEST



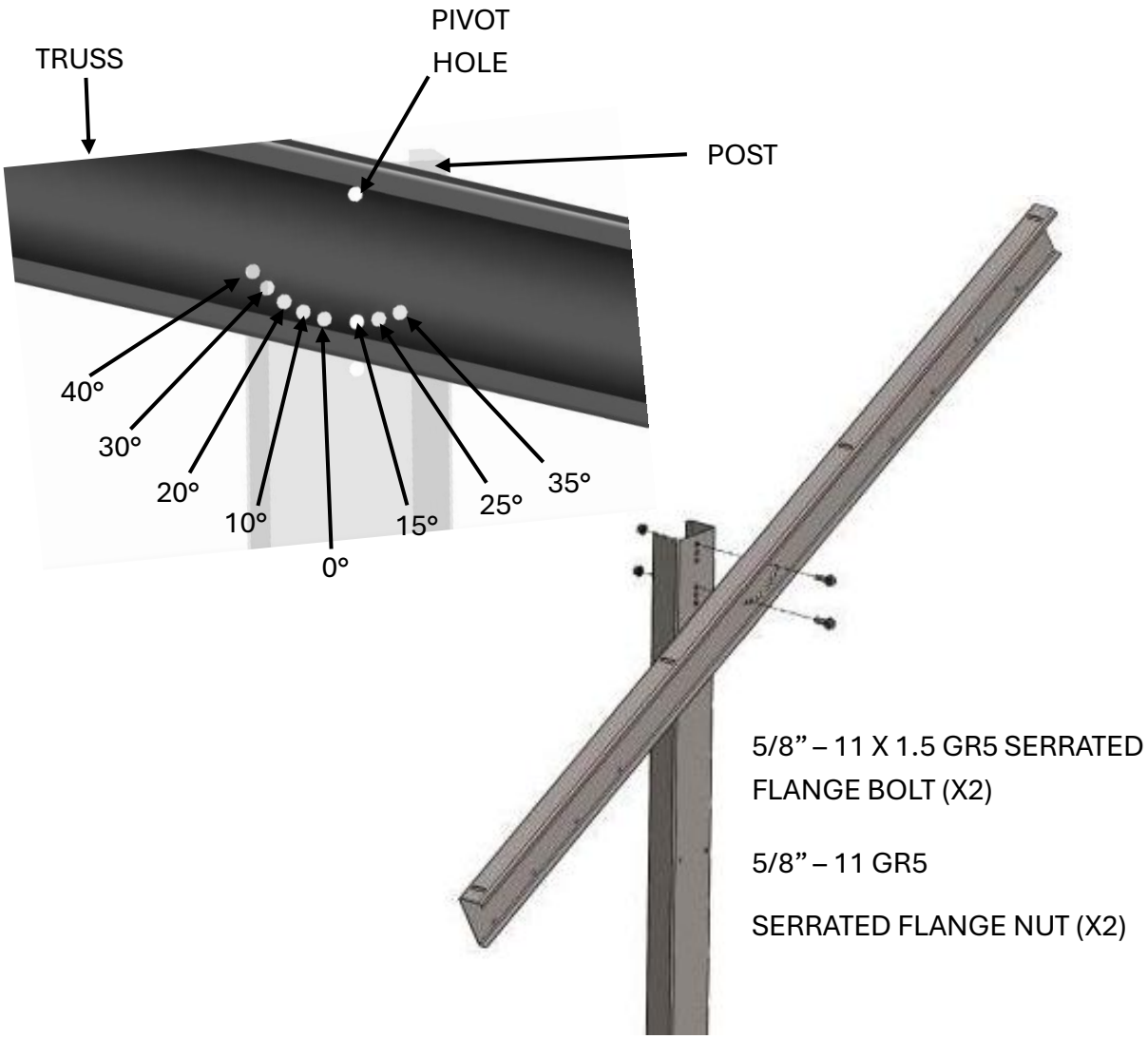
204” in. +/- 1.00”

CENTER TO CENTER OR FACE TO FACE

TRUSS AND STRUT INSTALLATION

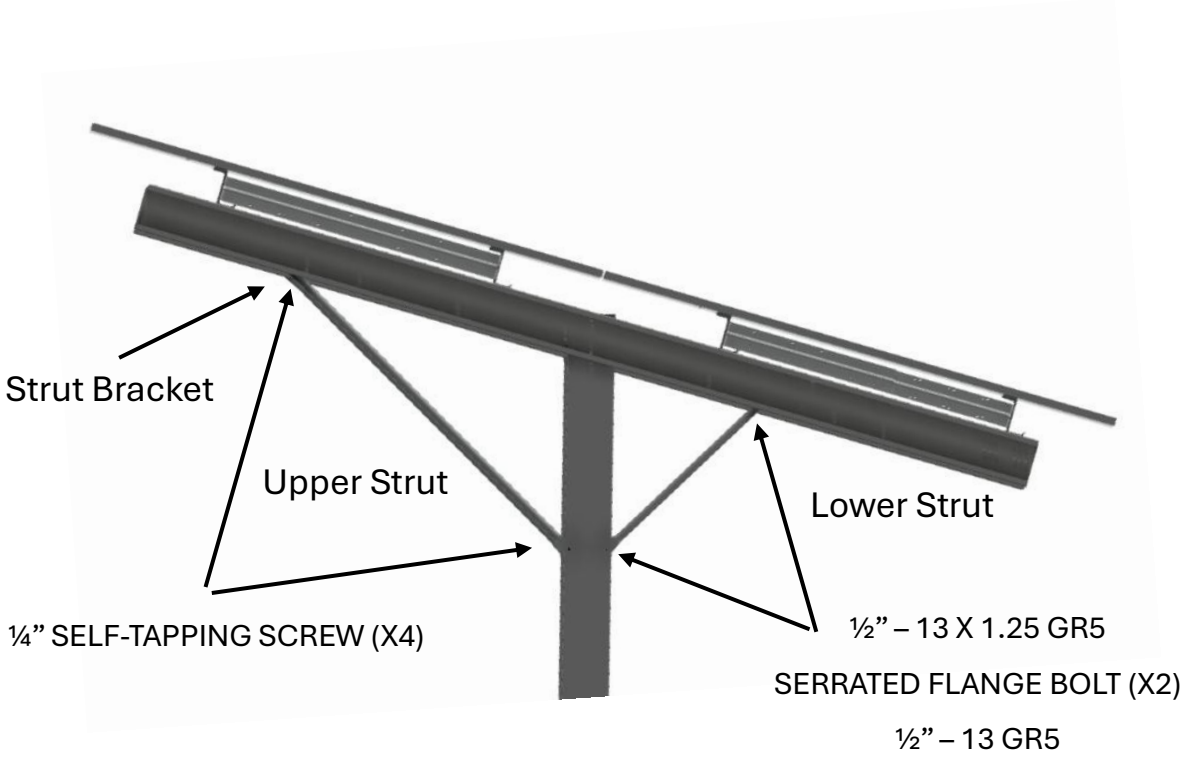
- Fasten 5/8” bolt through pivot hole in truss and into post driven or C-Post (hand tighten the nut)
- Select desired angle (see SMLLC drawings)
- Fasten 5/8” bolt through truss at desired angle location
- Tighten to 60 ft. lbs.

(VIEW LOOKING INTO CHANNEL)



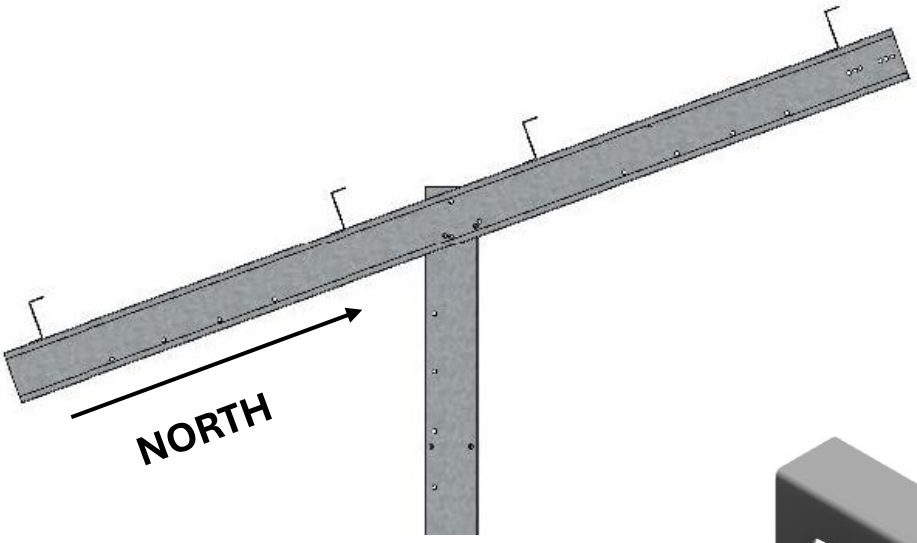
STRUT INSTALLATION

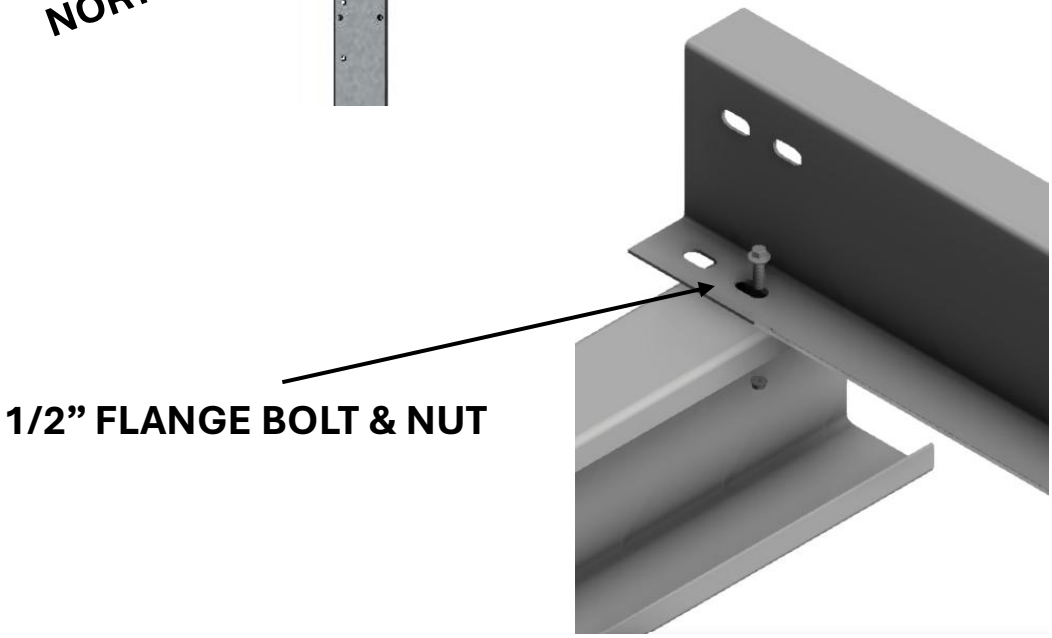
- Always start with the post bolt hole location when attaching both upper and lower struts
- Align and hand tighten lower strut with ½” bolt and nut
- Use strut bracket to put upper strut in proper, working location (start with lower bolt location first, strut bracket attachment to truss using ¼” self-tapping screws)
- Attach upper strut to strut bracket with ½” bolt and nut
- Tighten hardware to 50 ft. lbs.



PURLIN INSTALLATION (for single section, 2 high posts)

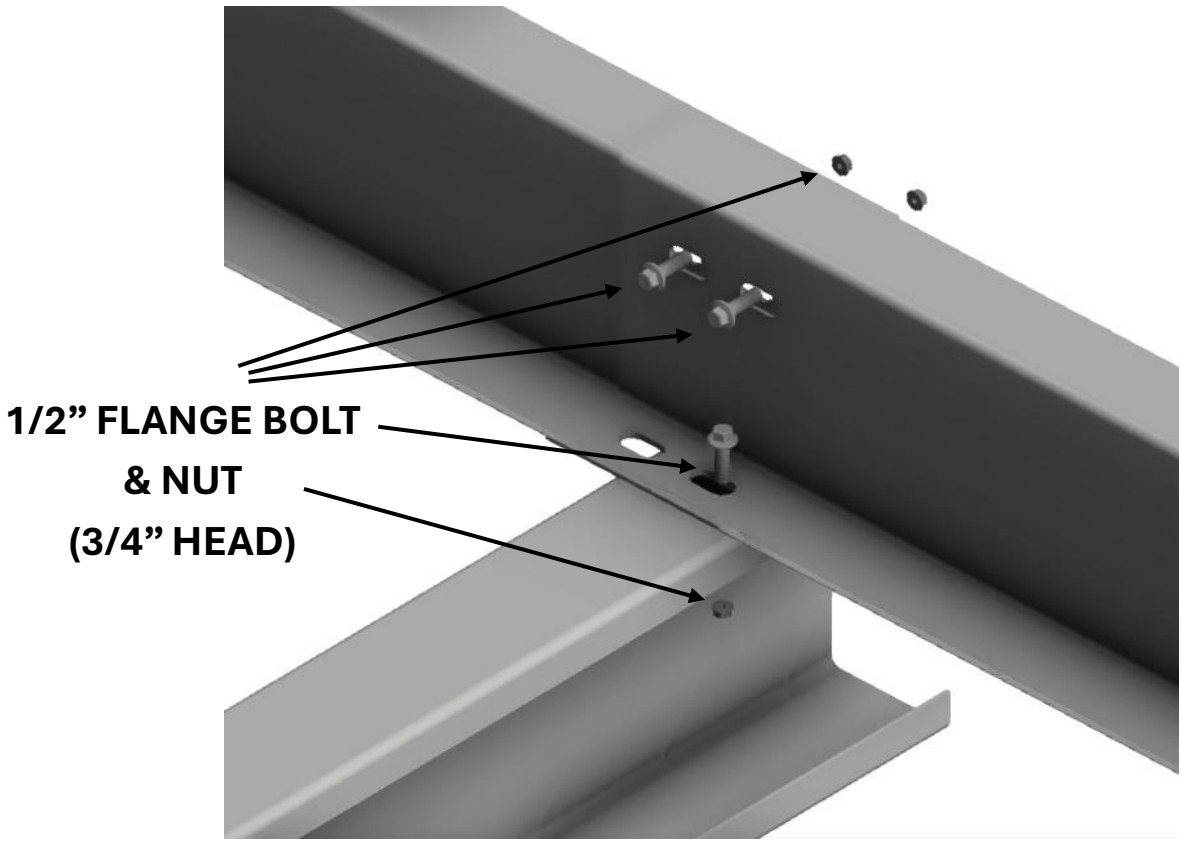
- Attach Z-Purlins to truss as pictured using 1/2” flanged bolt and flanged nut.
- Make sure all purlins are pointing North (Northern hemisphere installs)
- Before tightening, see next page for Add-On section install and Purlin overlap





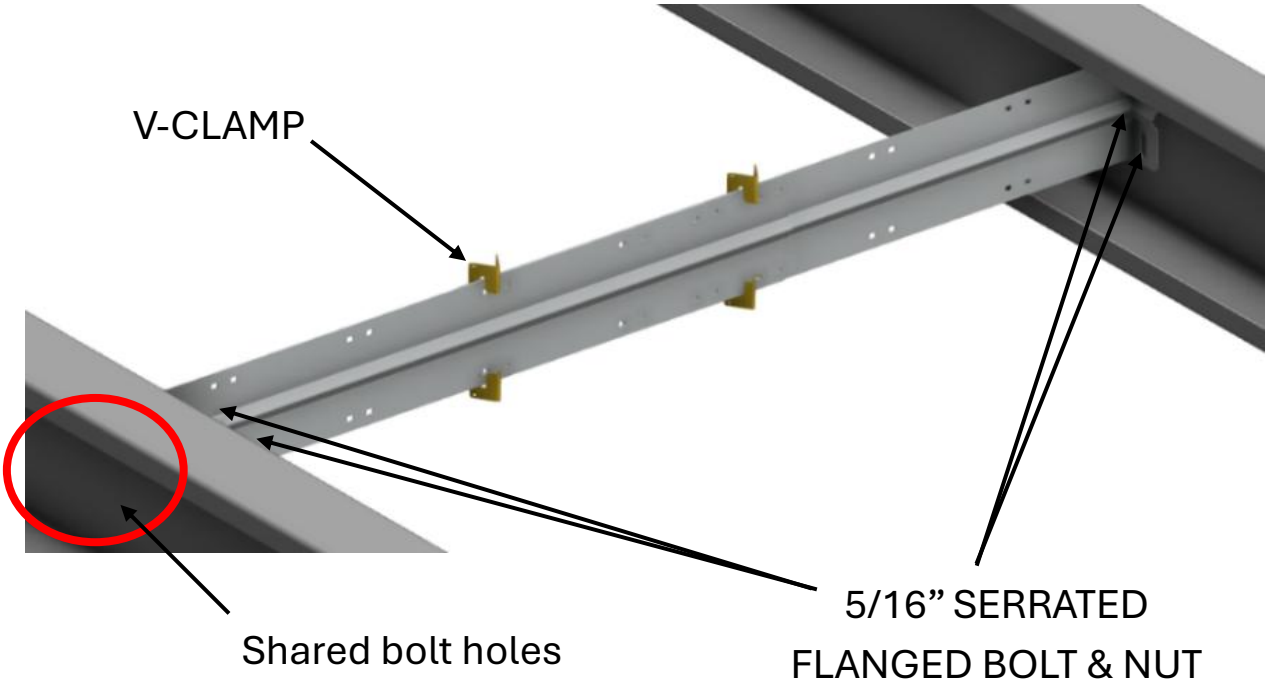
ADD-ON SECTION INSTALLATION

- Overlap Add-On section Z-Purlin, and use shared bolt hole locations
- Secure into place with ½” bolt and nut
- Tighten hardware to 50 ft. lbs.



PURLIN STIFFENER ATTACHMENT

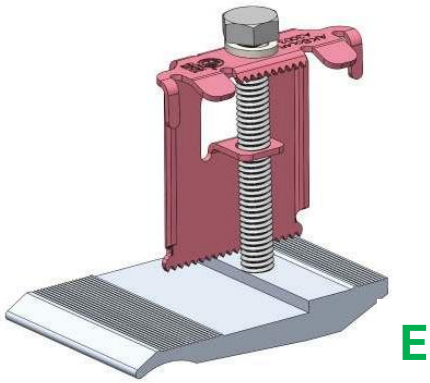
- See SMLLC drawings for appropriate spacing
- Compress V-Clamp with SMLLC V-Clamp or needle nose pliers and release in position
- Attach stiffener to purlins with 5/16” serrated flanged bolt & nut
- NOTE: Technicians can install in the field or use a jig to pre-assemble



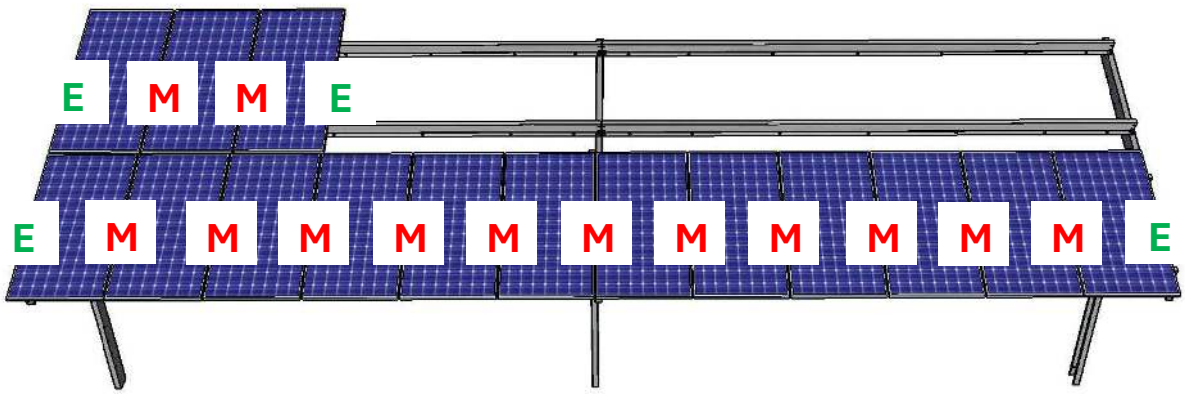
PV MODULE (PANEL) ATTACHMENT AND INSTALLATION

- Place PV module (“panel”) on Z-Purlins
- Secure PV module in place with end clamps.
    - Tighten to 12 ft. lbs.
    - **Use 2 clamps for each side of the PV module**
- Place second PV modules on rails in line with first panel.
- Secure the two PV modules together with the mid clamp as pictured.
    - Tighten to 12 ft. lbs.

MID-CLAMP ON DIAGRAM



END CLAMP ON DIAGRAM



FINAL INSPECTION & MAINTENANCE

- Check all driven posts for proper alignment, with respect to other posts throughout the installation. Check soil conditions, looking for ground “anomalies” (loose soils, animal tunnels, hard obstructions, etc.). Backfill holes, straighten posts that are not level, etc.
- Check all Post, Strut and Purlin bolts and nuts for tightness (torque test).
- Check PV array to ensure all PV modules are clean and unbroken.
- Check all PV module mid-clamps and end clamps are tightened to specification.
- Periodically inspect the structure for signs of wear or loosening. Periodically check for any animal or vegetative interaction or interference with the structure and/or PV modules.

CONTACT INFORMATION

For general questions or for SMLLC designated sales rep, please contact:
Solar Mounts LLC
Website: https://solarmounts.com
Phone: (844) 757-7225

Warranty

To obtain the Solar Mounts LLC warranty, please fill out the SMLLC Commissioning Form for each project site and return to Solar Mounts, LLC.

(NOTE: The SMLLC warranty starts at delivery of materials to customer site.)