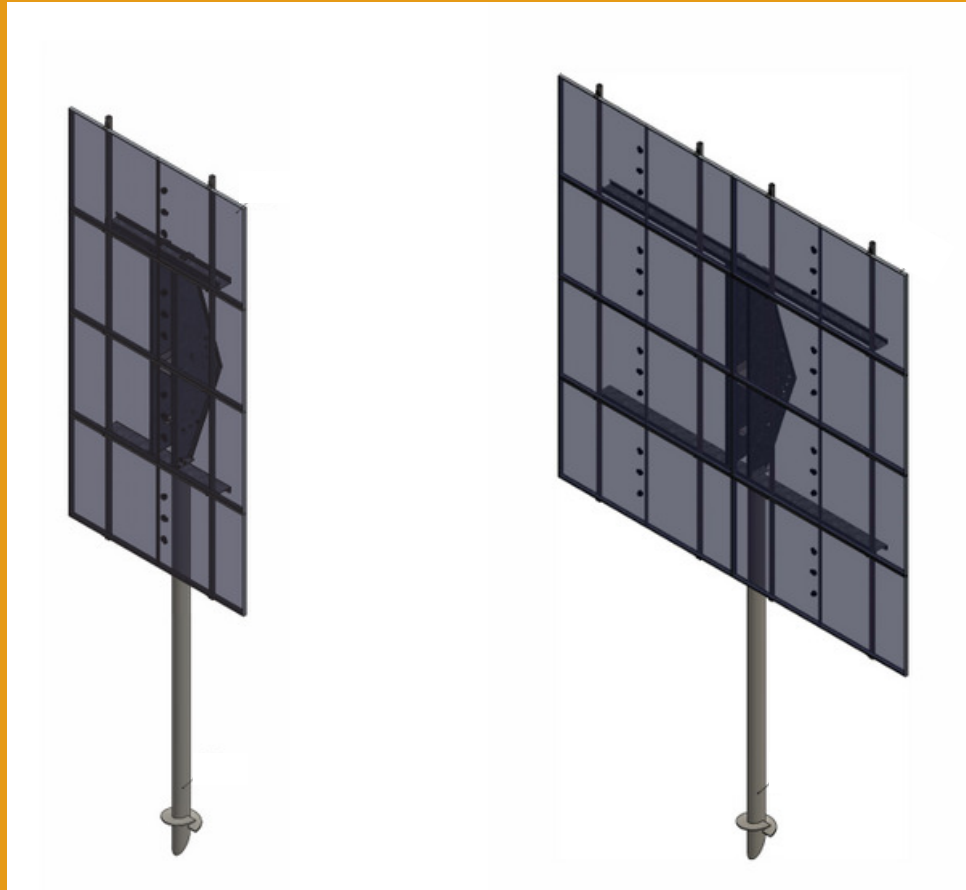


SunRanger Monopole MP-4L & MP-8L



UNIT 2, 34 WRANGLER PLACE SE | CALGARY, AB T1X 0L7

www.Azgard.com | Phone: 403-236-5501



Monopole 4P System Includes:

- 1 Hardware package
- 2 Pivot plates (laser etched East and West)
- Pile pivot adapter
- 2 Pile saddles
- 2 Purlins
- 4 Purlin troughs
- 2 Beams 58"

Monopole 8P System Includes:

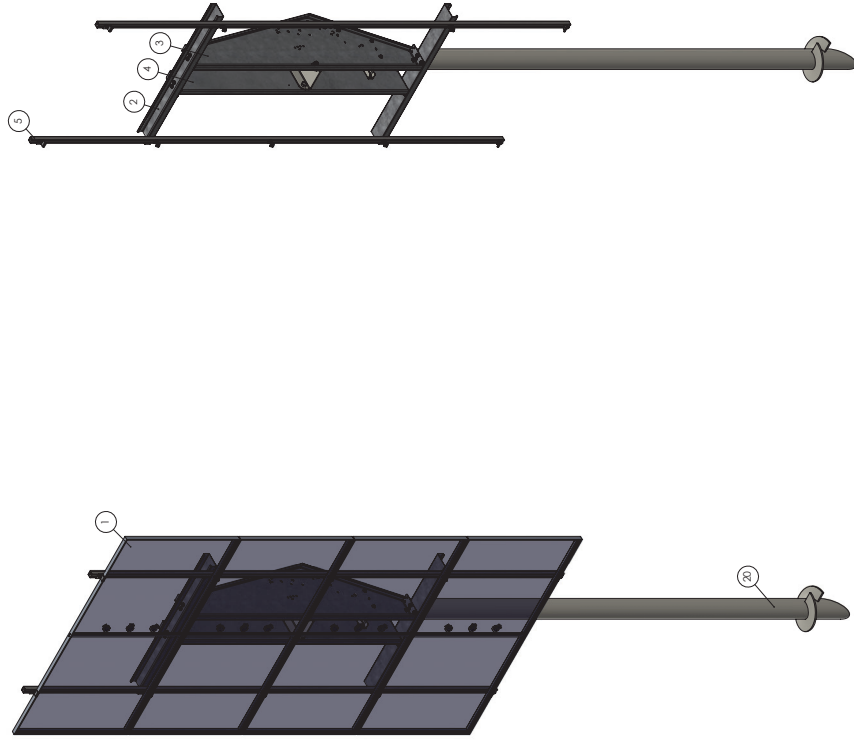
- 1 Hardware package
- 2 Pivot plates (laser etched East and West)
- Pile pivot adapter
- 2 Pile saddles
- 4 Purlins
- 8 Purlin Troughs
- 2 Beams 148"

MP-4L

• 1 Column • 4 Solar Panels • Landscape Layout

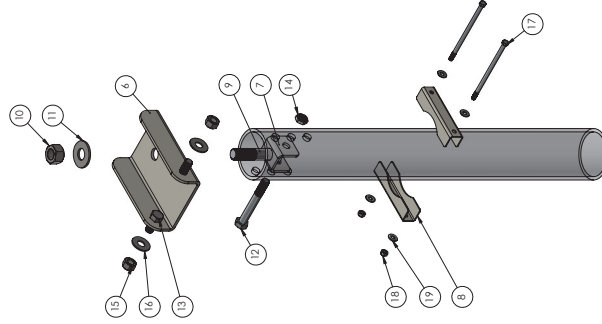
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	SOLAR PANEL	SOLAR PANEL 1133mm x 2256/2278mm	4
2	BEAM 12GA-MONOPOLE-8P	12 GA MAIN BEAM	2
3	PIVOT SUNRANGER UNIVERSAL EAST	12GA PIVOT PLATE - EAST	1
4	PIVOT SUNRANGER UNIVERSAL WEST	12GA PIVOT PLATE - WEST	1
5	PURLIN	PANEL CHANNEL	2
6	PILE PIVOT ADAPTER	CUSTOM FORMED CHANNEL	1
7	PILE INSERT	PILE INSERT FOR 1 1/2" BOLT AND 1" BOLT	1
8	6 NPS PILE SADDLE	PILE SADDLE - 6 NPS PILE TO PIVOT PLATE	2
9	91283A460 (1 1/2" X 6" UNC GR5 BOLT)	MEDIUM-STRENGTH GRADE 5 STEEL HEX HEAD BOLT	1
10	1 1/2" UNC GR5 NUT	MEDIUM-STRENGTH GRADE 5 STEEL HEX HEAD NUT	1
11	1 1/2" GR5 FLAT WASHER	MEDIUM-STRENGTH GRADE 5 STEEL FLAT WASHER	1
12	91242A931 (1 1/2" X 7 1/2" UNC GR5 BOLT)	MEDIUM-STRENGTH GRADE 5 STEEL HEX HEAD BOLT	2
13	1 1/2" X 1 1/4" UNC GR5 BOLT	MEDIUM-STRENGTH GRADE 5 STEEL HEX HEAD BOLT	2
14	91342A260 (1" UNC GR5 NUT/LOCK NUT)	MEDIUM-STRENGTH GRADE 5 STEEL HEX HEAD NUT	1
15	1" UNC GR5 NUT	MEDIUM-STRENGTH GRADE 5 STEEL HEX HEAD NUT	2
16	1" GR5 FLAT WASHER	MEDIUM-STRENGTH GRADE 5 STEEL FLAT WASHER	2
17	1/2" X 10" UNC GR5 BOLT	MEDIUM-STRENGTH GRADE 5 STEEL HEX HEAD BOLT	2
18	1/2" UNC GR5 NUT	MEDIUM-STRENGTH GRADE 5 STEEL HEX HEAD NUT	2
19	1/2" GR5 FLAT WASHER	MEDIUM-STRENGTH GRADE 5 STEEL FLAT WASHER	4
20	6 NPS PILE	6 NPS HELICAL SCREW PILE	1

NOTE: MONO BRACKING HARDWARE AND SMALL PARTS NOT INCLUDED IN THE ABOVE BILL OF MATERIALS

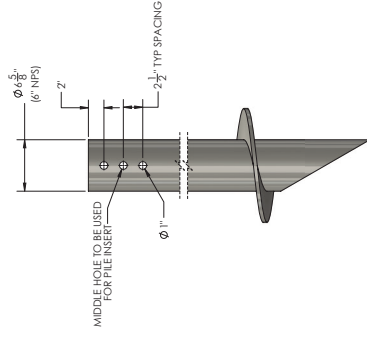


Isometric View - With Solar Panels
Scale 1:20

Isometric View - Frame Only
Scale 1:20



Exploded View - Pile Connection Detail
Scale 1:8

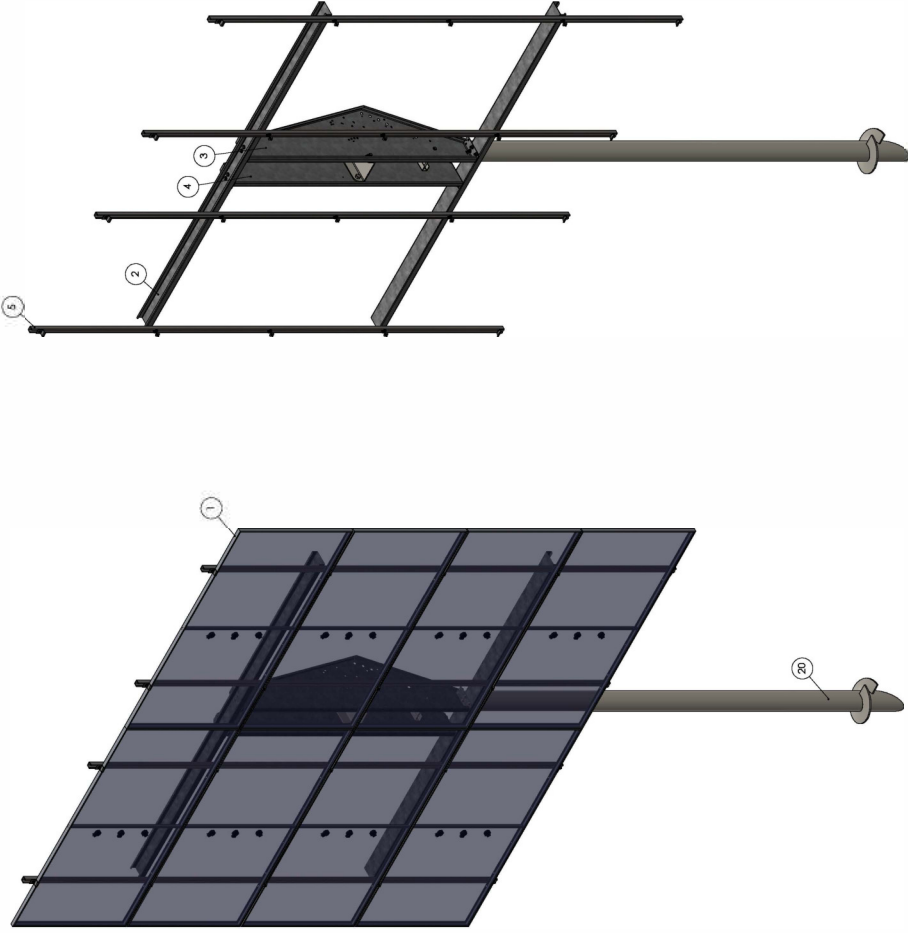


Elevation View - Pile Detail
Scale 1:8

<p>MFG. TOLERANCES</p> <p>FABRICATING</p> <p>± .010</p> <p>± .020</p> <p>± .125</p> <p>ANGULAR</p> <p>± 1°</p>	<p>© AZGARD SOLAR INC. ALL RIGHTS RESERVED</p> <p>THIS DESIGN IS THE PROPERTY OF AZGARD SOLAR INC. THE INFORMATION AND KNOWLEDGE HEREIN MAY NOT BE USED, NOR MAY THE DRAWINGS BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT UNAUTHORIZED REPRODUCTION, IN WHOLE OR IN PART, IS PROHIBITED.</p> <p>MANUFACTURING STANDARD NOTES:</p> <ol style="list-style-type: none"> USE BURS ALL PARTS ALL DIMENSIONS ARE BASED ON A 0.6 K FACTOR AND ARE REPEATED DIMENSIONS COLD-FORMED STEEL THICKNESS ± .014, .65 PER 53.96 CODE 	<p>DRAWN BY: RWN</p> <p>DESIGNED DATE: Oct 13, 2024</p> <p>WEIGHT:</p> <p>APPROVED BY:</p>	<p>AZGARD SOLAR INC. 1133mm x 2256/2278mm CA, OR, W, ALBERTA TRUCKS REG. PERMIT #00012</p> <p>Pole Mounted Packing 4 Panel Landscape - 1133mm x 2256/2278mm General Arrangement</p> <p>DRAWING NO.: MP-4L-1 REV.: 1</p>
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MP- 8L

• 2 Columns • 8 Solar Panels • Landscape Layout

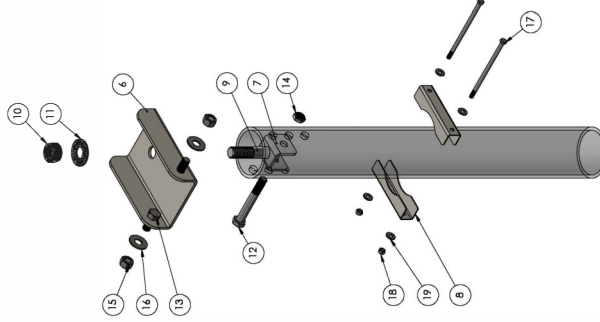


Isometric View - With Solar Panels
Scale 1:20

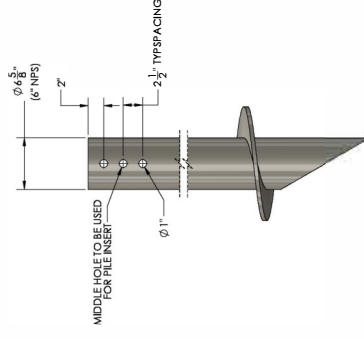
Isometric View - Frame Only
Scale 1:20

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	SOLAR PANEL	SOLAR PANEL 1133mm x 2264(2278)mm	8
2	BEAM_12GA_MONOPOLE-8P	12 GA MAIN BEAM	2
3	PIVOT SUNRANGER_UNIVERSAL EAST	12GA PIVOT PLATE - EAST	1
4	PIVOT SUNRANGER_UNIVERSAL WEST	12GA PIVOT PLATE - WEST	1
5	PIRLIN	PANEL CHANNEL	4
6	PILE PIVOT ADAPTER	CUSTOM FORMED CHANNEL	1
7	PILE INSERT	PILE INSERT FOR 1 1/2" BOLT AND 1" BOLT	1
8	6 NPS PILE SADDLE	PILE SADDLE - 4 NPS PILE TO PIVOT PLATE	2
9	91283A 460 (1 1/2" X 4" UNC CRS BOLT)	MEDIUM-STRENGTH GRADE 5 STEEL HEX HEAD BOLT	1
10	1 1/2" UNC CRS NUT	MEDIUM-STRENGTH GRADE 5 STEEL HEX HEAD NUT	1
11	1 1/2" CRS FLAT WASHER	MEDIUM-STRENGTH GRADE 5 STEEL FLAT WASHER	1
12	91242A931 (1 1/2" X 7 1/2" UNC CRS BOLT)	MEDIUM-STRENGTH GRADE 5 STEEL HEX HEAD BOLT	2
13	1 1/2" X 3/4" UNC CRS BOLT	MEDIUM-STRENGTH GRADE 5 STEEL HEX HEAD BOLT	1
14	91342A260 (1 1/2" UNC CRS NUT LOCK NUT)	MEDIUM-STRENGTH GRADE 5 STEEL HEX HEAD NUT	1
15	1" UNC CRS NUT	MEDIUM-STRENGTH GRADE 5 STEEL HEX HEAD NUT	2
16	1" CRS FLAT WASHER	MEDIUM-STRENGTH GRADE 5 STEEL FLAT WASHER	2
17	1/2" X 1 1/2" UNC CRS BOLT	MEDIUM-STRENGTH GRADE 5 STEEL HEX HEAD BOLT	2
18	1/2" UNC CRS NUT	MEDIUM-STRENGTH GRADE 5 STEEL HEX HEAD NUT	2
19	1/2" CRS FLAT WASHER	MEDIUM-STRENGTH GRADE 5 STEEL FLAT WASHER	4
20	6 NPS PILE	6 NPS HELICAL SCREW PILE	1

NOTE: MONO RACKING HARDWARE AND SMALL PARTS NOT INCLUDED IN THE ABOVE BILL OF MATERIALS



Exploded View - Pile Connection Detail
Scale 1:8



Elevation View - Pile Detail
Scale 1:8

<p>MPG TOLERANCES</p> <p>FABRICATING</p> <p>FRACTIONAL</p> <p>± .015</p> <p>DECIMAL</p> <p>± .003</p> <p>ANGULAR</p> <p>± 1°</p>	<p>MANUFACTURING Standard Notes:</p> <ol style="list-style-type: none"> 1. USES ALL PARTS 2. CLEAN SURFACE 3. CLEAN SURFACE 4. REPEAT DIMS 5. COLD-FORMED STEEL THICKNESS ± .004 AS PER E338 CODE 	<p>APPROVED BY:</p> <p>DATE:</p> <p>THIRD ANGLE</p> <p>SIZE: D</p>	<p>DESIGNED BY:</p> <p>DATE:</p> <p>CREATED DATE:</p> <p>Oct 12, 2024</p>	<p>ASSEMBLY:</p> <p>RWN</p> <p>THIS DRAWING IS THE PROPERTY OF AZGARD SOLAR INC. THE INFORMATION AND KNOWLEDGE HEREIN MAY NOT BE USED, REPRODUCED, COPIED, OR TRANSMITTED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF AZGARD SOLAR INC. UNAUTHORIZED REPRODUCTION, IN WHOLE OR IN PART IS PROHIBITED.</p>	<p>AZGARD SOLAR INC.</p> <p>1133mm x 2264(2278)mm</p> <p>8 Panel Landscape - 1133mm x 2264(2278)mm</p> <p>General Arrangement</p> <p>POLE MOUNTED RACKING</p> <p>ASGARD SOLAR INC.</p> <p>1133mm x 2264(2278)mm</p> <p>ASGARD SOLAR INC.</p> <p>1133mm x 2264(2278)mm</p> <p>ASGARD SOLAR INC.</p> <p>1133mm x 2264(2278)mm</p>
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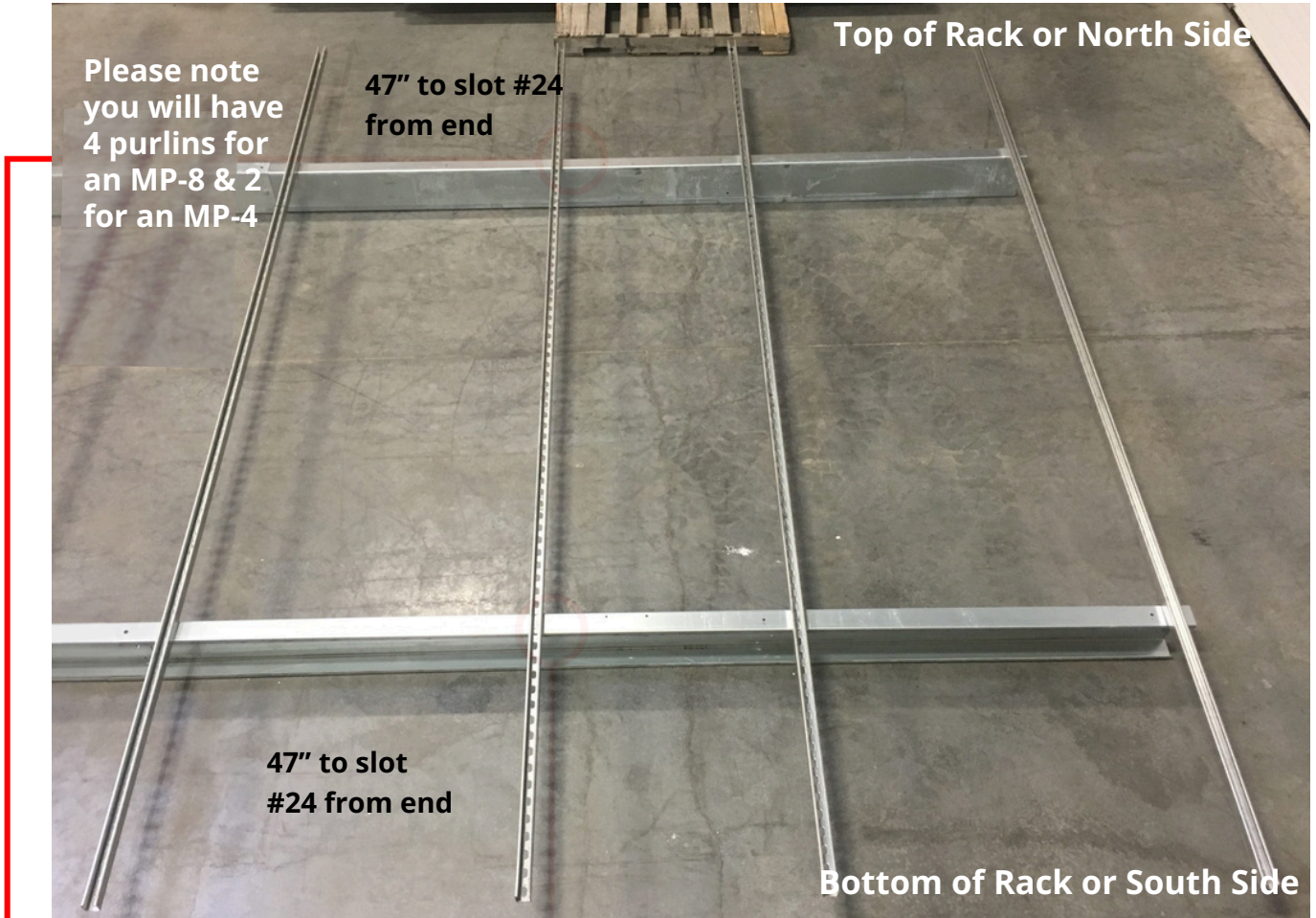
Purlin Location

Before installing the purlins pre-mark both ends of the purlin with the slot that is 47 inches or the 24th slot from the bottom ends of the purlin and 47 inches or the 24th slot from the top of the purlins.

OR

Center the purlins between the two horizontal beams.

Beam length and location on the beam may vary depending on the solar panels used.



Please note you will have 4 purlins for an MP-8 & 2 for an MP-4

47" to slot #24 from end

Top of Rack or North Side

47" to slot #24 from end

Bottom of Rack or South Side

Bolt sits on the top of the slot

Bolt sits on the bottom of the slot

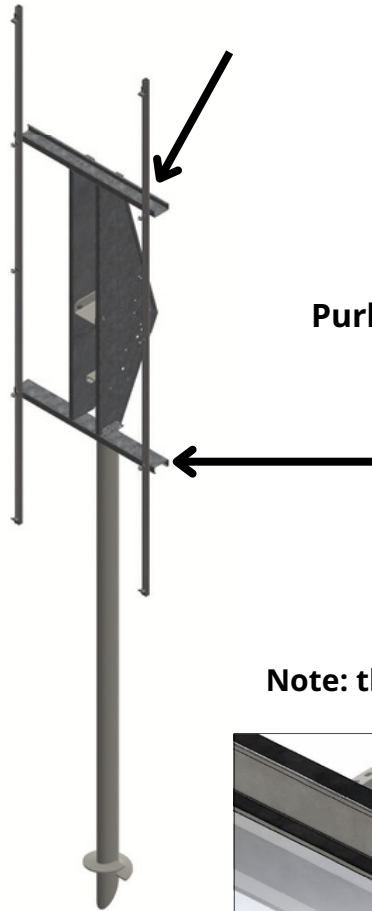


Purlin Troughs

Purlin troughs attach where the purlin meets the beam both top and bottom.

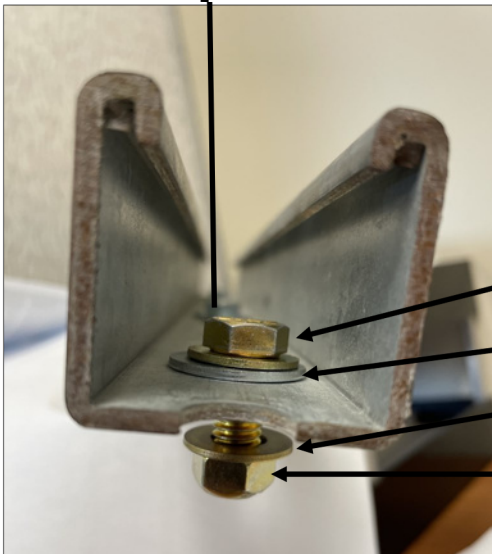
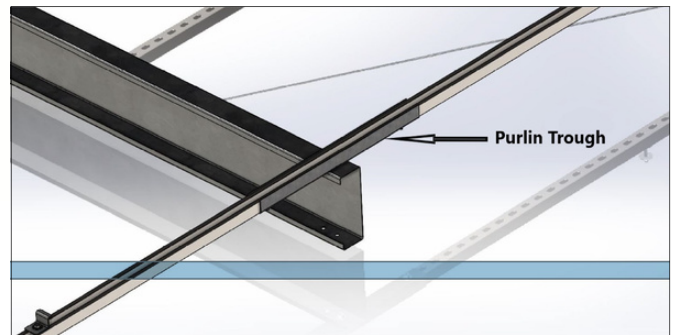
Pivot Plate to Beam Hardware

- 1/2" Serrated Bolt
- 1/2" Serrated Nut



Purlin Trough (2 per Purlin)

Note: there are 3 bolts per purlin trough



IMPORTANT:

Purlin to Beam Bolt

- Bolt (3/8" x 1")
- Washer x 2
- Single Washer
- Nut

Solar Module Installation

Top Z-clip Hardware

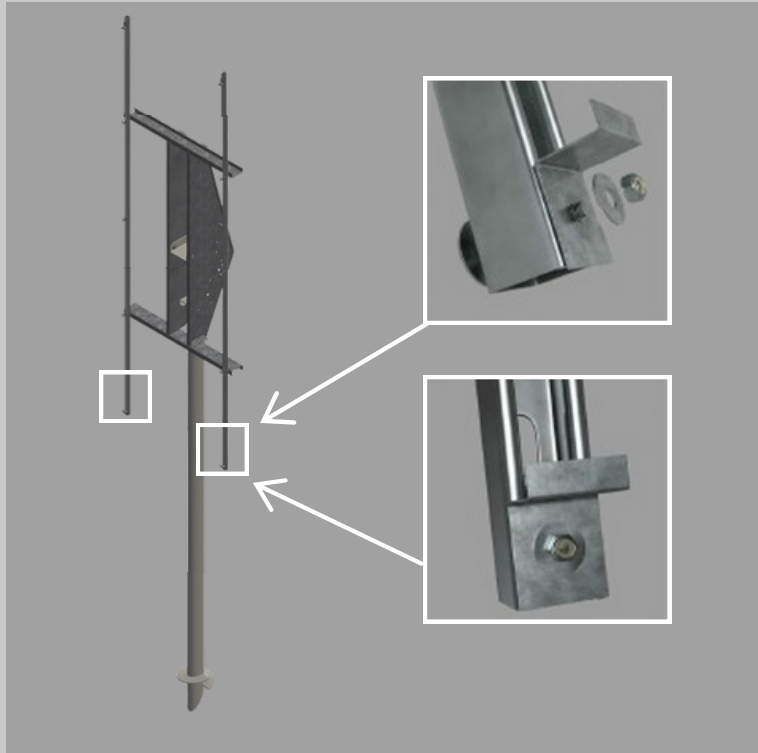
- 3/8" x 1-1/2" short spring stud
- 3/8" flat washer
- 3/8" nyloc nut

Install the bottom (South) Z-clips to the lower end of the purlins.

The fender washer will be on the bottom of the purlin with the Z-clips at the top.

Bottom Z-clip Hardware

- 3/8" x 2-1/2" bolt
- 3/8" fender washer
- 3/8" flat washer
- 3/8" nyloc nut



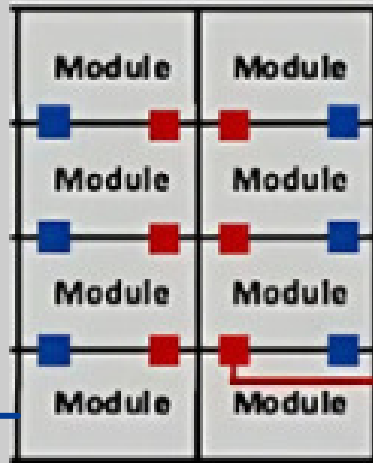
Depending on the solar panel used you may wish to trim excess purlin length on top and or bottom, but excess purlin length may be left as is..



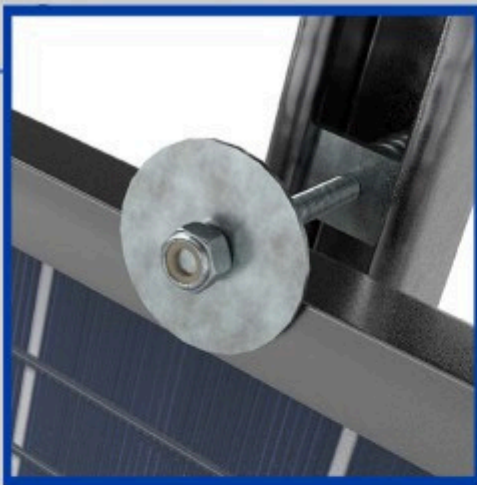
Panel Bolting Detail

Bonding washers may be used if bonding is required. Bonding washer only required on one purlin per column of panels.

MP-4: 1 column 4 panels
MP-8: 2 columns 8 panels



Bonding Washer



No bonding washer.
Fender washer on top only.



Bonding washer inserted between
solar panels and bottom fender
washer

- Spring-bolts with 3/8" x 2-1/2" studs, placed into the purlins,
- A 3/8" fender washer,
- An AKS bonding washer,
- Two solar modules placed - one of either side of the protruding stud,
- A fender washer placed on to the stud,
- A 3/8" Nyloc nut installed and torqued to **12-15lbs.** -ft once solar panels are in position on each side of the fastener.
- **IMPORTANT: DO NOT OVER-TIGHTEN THE PANEL NUTS.**
Overtightening may shatter the solar panel.

Solar Module Installation

Spring Clip Installation Note:

IMPORTANT! When installing the solar panels on top of the spring clip bolt, sliding the panels along the spring clip bolt may cause the bolt to turn and unlock from the purlin below.

After installing the washer and nut on the spring clip bolt, **check that the length of the bolt is consistent with the others. Pull on the solar panel to be sure the spring clip bolt is locked in place.**

The solar panel will lift off if the spring clip bolt is not seated correctly.



If the clip has popped out of the purlin, you will be able to tell as the spring clip bolt will be protruding out further



The clip should remain within the trench of the purlin

**Thank you for your purchase! If
you have any questions
regarding these instructions,
please contact our office**

Patrick Fulawka

Office: (403)-236-5501

Cell: (403)-815-8515

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See our website for installation videos:

www.Azgard.com/videos

