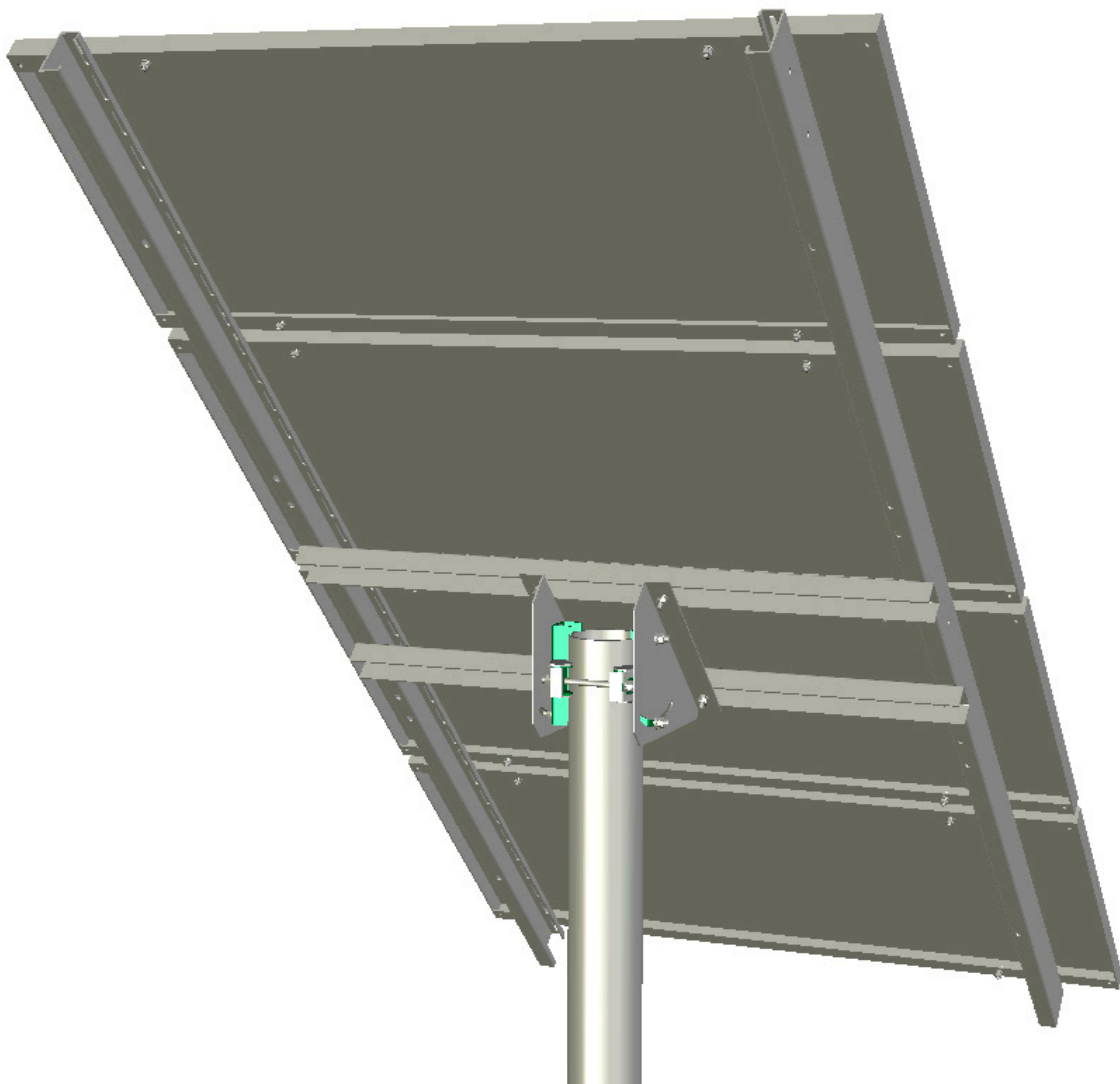




Installation Manual
Universal Top-of-Pole Mount
UNI-TP/04A



Solar Mounting Solutions

Introduction

The Universal Top-of-Pole Mount UNI-TP/04A is a very sturdy and straightforward pole mounting solution for small area solar photo voltaic (PV) needs. With its user-adjustable angle settings, it can support installations in a wide range of locations.

In addition, the UNI-TP/04A supports:

- ◆ Up to three PV panels with a combined width of up to 110 inches.
- ◆ A pole diameter of 4.0 inches (requires a properly anchored schedule 40 pipe).

1. Installer Responsibility

The installer is solely responsible for:

- ◆ Complying with all applicable local or national building codes, including any that may supersede this manual
- ◆ Ensuring that IronRidge and other products are appropriate for the particular installation and the installation environment
- ◆ Ensuring that the selected mount can support the array under live load conditions
- ◆ Using only IronRidge parts and installer-supplied parts as specified by IronRidge. Substitution parts may void the warranty
- ◆ Ensuring safe installation of all electrical aspects of the PV array.

2. Customer Support

IronRidge makes every effort to ensure your mounting kit is easy to install. If you need assistance at any point with your installation or have suggestions on how we can improve your experience, call IronRidge customer support: (800) 227-9523

3. Tools Required For Assembly

The following tools are required to assemble the Universal Top-of-Pole Mount:

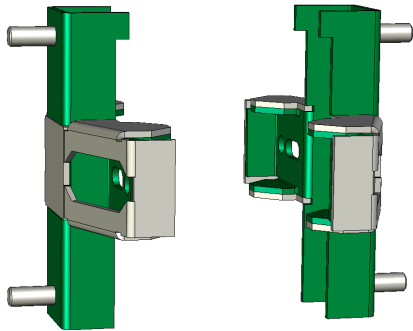
Tool	Use for
Wrenches Open-end wrench, Box-end wrench, or 3/8" or greater socket drive with sockets to support the following size hex heads: <ul style="list-style-type: none"> ◆ 3/8" ◆ 5/16" ◆ 1/4" 	<ul style="list-style-type: none"> ◆ 3/8 cap-end screws, 3/8 bolts ◆ 5/16 cap-end screws, 5/16 bolts ◆ 1/4 cap-end screws, 1/4 bolts

4. Component List

The Universal Top-of-Pole Mount UNI-TP/04A kit contains the following parts:

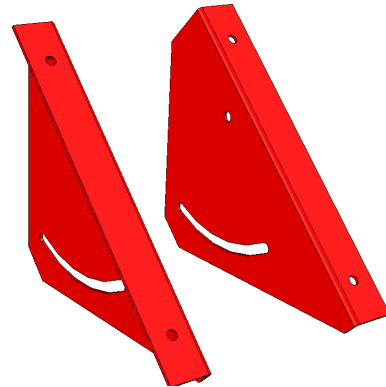
Brace Assembly (51-0626-300) x2

Attaches to the top of the 4-inch pole, providing the foundation for the mount



Tilt Plate, left (51-0627-018) and right (51-0627-018A)

Attaches to the brace, providing tilt adjustment for the panel assembly



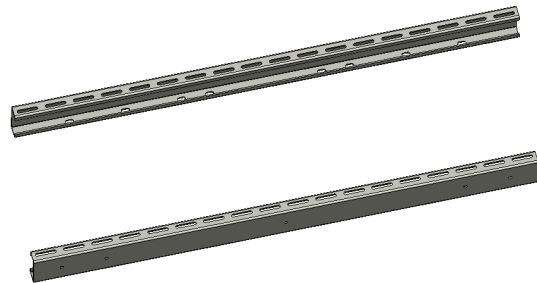
Cross Rail (51-0627-016) x2

Attaches to the tilt plates and support the channel rails



Channel Rail (51-0555-000) x4

Attaches directly to the back of the PV modules



Channel Rail Connector (51-0627-021) x2

Joins two channel rails together, doubling the usable length



Component List continued...

Part	Qty	Part Number
5/16 x 1" Kit	1	29-5006-005
5/16-18 x 1" SS hex-cap bolt	4	23-3118-021
5/16 flat washer, SS	8	25-3102-000
5/16 split lock washer, SS	4	25-3101-000
5/16 hex nut, SS	4	25-3118-440
Small Pole Bracket Kit	1	29-5008-001
Stud, 3/8-16 x 6" SS	2	27-1037-016
3/8 flat washer, Zinc	4	27-3702-001
3/8 split lock washer, Zinc	4	27-3701-001
3/8 hex nut, Zinc	4	24-3716-441
Small Tilt Plate Kit	1	29-5007-000
3/8 flat washer, Zinc	4	27-3702-001
3/8 split lock washer, Zinc	4	27-3701-001
3/8 hex nut, Zinc	4	24-3716-441
Cross Rail Kit	1	29-5010-000
5/16-18 x 2.50" hex-cap bolt, Zinc	4	23-3118-901
5/16 flat washer, Zinc	4	25-3102-001
5/16 med split lock washer, Zinc	4	25-3101-001
5/16-18 fin hex nut, Zinc	4	24-3118-441
Spare Pole Kit	1	29-5002-100
1/4-20 x 3/4" SS hex-cap bolt	4	23-2520-050
1/4 flat washer, SS	4	25-2502-000
1/4 split lock washer, SS	4	24-2501-000
1/4-20 fin hex nut, SS	4	24-2520-440
1/4 x 3/4" Kit	12	29-5000-000
1/4-20 x 3/4" SS hex-cap bolt	24	23-2520-050
1/4 flat washer, SS	32	25-2502-000
1/4 split lock washer, SS	24	24-2501-000
1/4-20 fin hex nut, SS	24	24-2520-440

5. Assembly

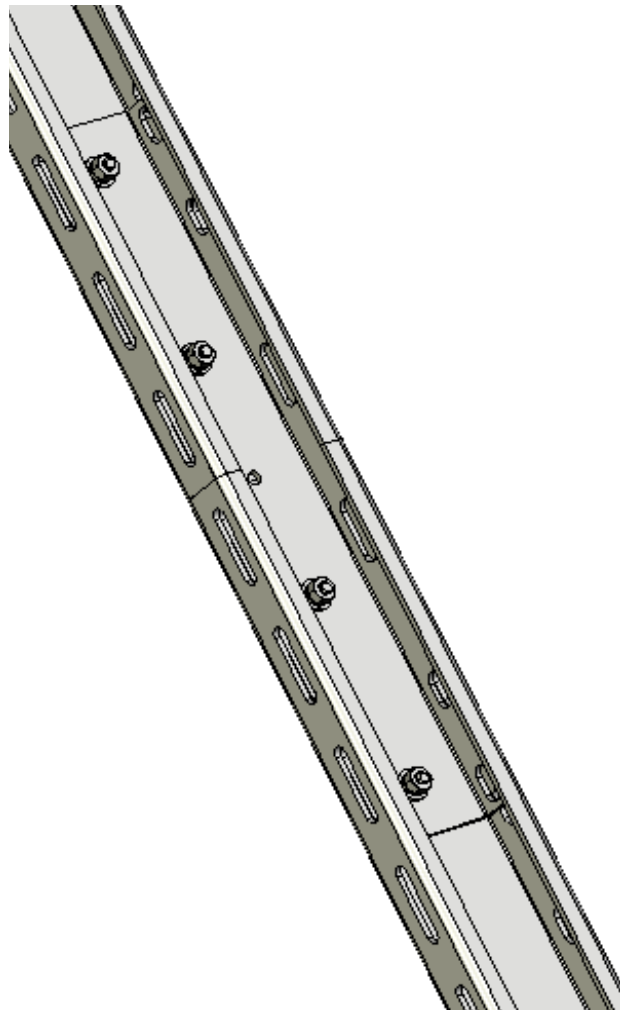
Step 1 -connecting the channel rails together

Parts Required	Qty	Part Number
Channel Rail	2	51-0555-000
Channel Rail Connector	2	51-0627-021
1/4-20 x 3/4" SS hex-cap bolt	8	23-2520-050
1/4 flat washer, SS	16	25-2502-000
1/4 split lock washer, SS	8	24-2501-000
1/4-20 fin hex nut, SS	8	24-2520-440

1. Lay two of the channel rails end to end, so the hollow end of the rails is facing up, and the holes on the sides of the rails match.
2. Place a channel rail connector inside the rails as shown, lining up the holes.
3. Secure the connector with four sets of the supplied 1/4" hardware.

Tighten the bolts to 7 ft-lbs.

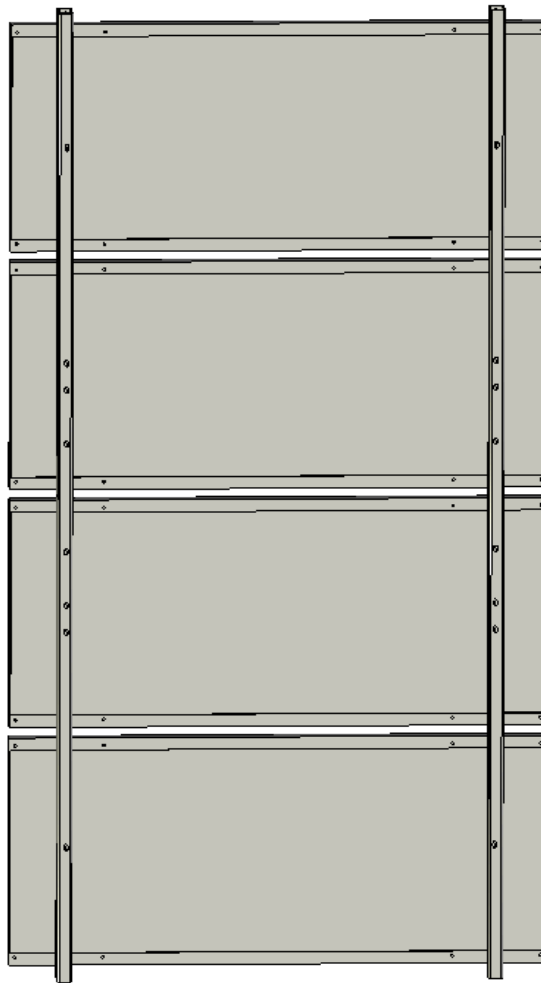
4. Repeat with the other set of channel rails.



Step 2 -attaching the channel rails to the PV modules

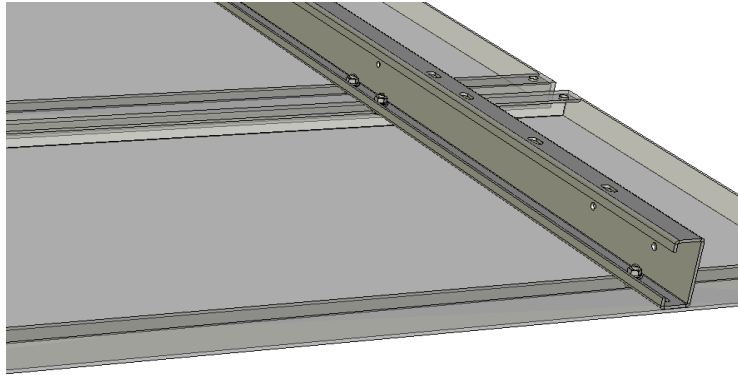
Parts Required	Qty	Part Number
PV Module	3-4	User-supplied
1/4-20 x 3/4" SS hex-cap bolt	12	23-2520-050
1/4 flat washer, SS	12	25-2502-000
1/4 split lock washer, SS	12	24-2501-000
1/4-20 fin hex nut, SS	12	24-2520-440

1. Lay the modules face down on a protected surface in the appropriate orientation. Leave an inch or two between the panels.
2. Lay the channel rails on the back of the modules with the evenly-spaced holes down, so the flat side of the rails are facing towards the outside edges of the panels.



- Secure the rails with a bolt, lock washer and hex nut in each of the PV mounting holes.

Tighten the bolts to 7 ft-lbs.

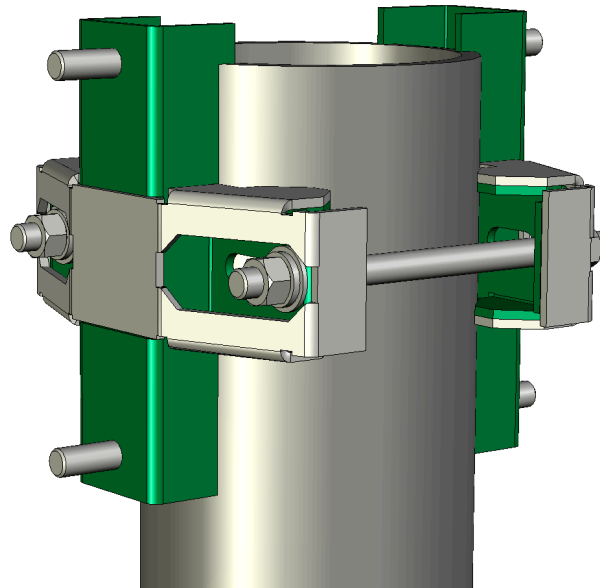


Step 3 - attaching the brace assembly to the pole

Parts Required	Qty	Part Number
Brace Assembly	2	51-0626-300
Stud, 3/8-16 x 6" SS	2	27-1037-016
3/8 flat washer, Zinc	4	27-3702-001
3/8 split lock washer, Zinc	4	27-3701-001
3/8 hex nut, Zinc	4	24-3716-441

- Place the brace assembly onto the pole so the "lip" catches the top of the pole.
- Install the studs and hardware as shown, using a washer and lock washer under each nut.
- Tighten the stud nuts evenly, making sure that both studs are tightened the same amount so the distance between braces is the same on the front and the back.

Also, make sure that the nuts are approximately an equal number of threads in on the studs, so that the protruding part of the stud doesn't stick out too far.

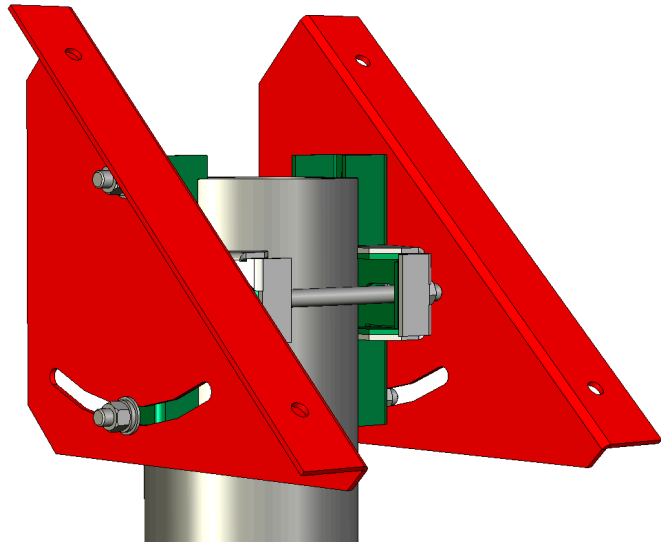


- Tighten the studs to 12 ft-lbs.

Step 4 - attaching the tilt plates to the brace

Parts Required	Qty	Part Number
Tilt Plate, left	1	51-3517-243
Tilt Plate, right	1	51-3517-244
3/8 flat washer, Zinc	4	27-3702-001
3/8 split lock washer, Zinc	4	27-3701-001
3/8 hex nut, Zinc	4	24-3716-441

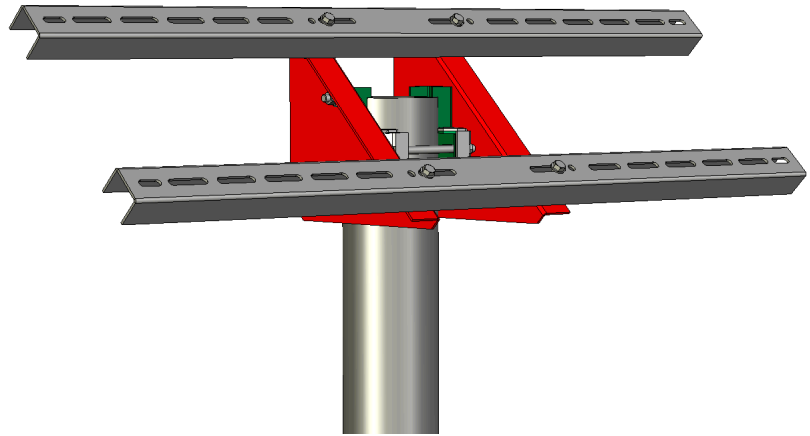
1. Place the tilt plates on the brace assembly as shown.
2. Use a washer, lock washer and nut on each screw, and finger-tighten.



Step 5 - attaching the cross rails to the tilt plates

Parts Required	Qty	Part Number
Cross Rail	2	27-0627-016
5/16-18 x 2.50" hex-cap bolt, Zinc	4	23-3118-901
5/16 flat washer, Zinc	8	25-3102-001
5/16 med split lock washer, Zinc	4	25-3101-001
5/16-18 fin hex nut, Zinc	4	24-3118-441

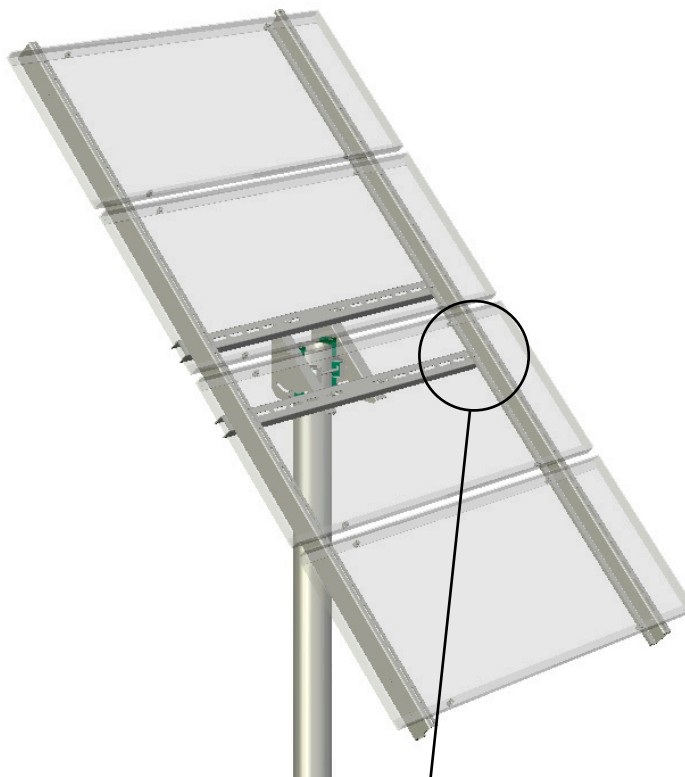
1. Place the cross rails on the tilt plates with the open side facing down and attach using the specified hardware.
2. Tighten the bolts to 12 ft-lbs.



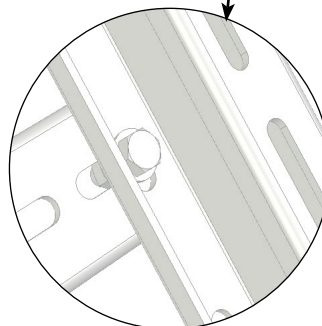
Step 6 - mounting the PV assembly

Parts Required	Qty	Part Number
5/16-18 x 1" SS hex-cap bolt	4	23-3118-021
5/16 flat washer, SS	8	25-3102-000
5/16 split lock washer, SS	4	25-3101-000
5/16 hex nut, SS	4	25-3118-440

1. Lift the PV array assembly onto the cross rails and attach using the supplied hardware.



2. Tighten the bolts to 12 ft-lbs.



3. Adjust the tilt of the panel, then tighten the tilt plate nuts to 12 ft-lbs.

IronRidge 20-Year Warranty

IronRidge warrants each Mounting Structure to be free from defects in materials and workmanship for twenty years from the date of first purchase when installed properly and used for the purpose for which it is designed. The warranty covers the replacement cost of parts to repair the product to proper working condition. Transportation and incidental costs associated with warranty items are not reimbursable. The warranty does not cover normal wear, or damage resulting from misuse, abuse, improper installation, negligence, or accident. Furthermore, it does not cover units that have been altered, modified or repaired without written authorization from the manufacturer or its authorized representative, or units used in a manner or for a purpose other than that specified by the manufacturer.