

Kasco[®]

Owners Manual

Solar Panel Racking System



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Important Safety:

Please read and follow these important instructions to help ensure your safety and the quality performance of your Kasco equipment.

- Caution should be used when dealing with any electrical and/or moving equipment.
- **Under NO CIRCUMSTANCE should anyone enter the water with the electrical equipment plugged in and/or in operation.**
- The product includes heavy items that must be handled with reasonable care to avoid damage and/or injury.
- User may be exposed to pinch points and sharp edges. Keep clear of any pinch points or sharp edges.
- Note that depending on install height there may be low hanging metal parts. Use hard hats as appropriate when inspecting the product and control access to the site.
- User must use standard constitution safety practices and follow all local laws and standards as applicable to a particular site installation.

Product-at-a-Glance

Each Solar Ground Mount comes standard with modular rails to fit nearly any commercially available panel, galvanized mounting structure to prevent against corrosion and a 20 year guarantee against mechanical failure.



Tools Required:

- Tape Measure (20 feet)
- 15/16" Socket for 5/8" Bolt
- 15/16" Combination Wrench
- 3/4" Socket
- 3/4" Combination Wrench
- 1/2" Combination Wrench
- 1/2" Socket for 5/16" bolt
- Ground Rod/Clamp/Copper Wire Sourced From Electrical Supply Store
- Post hole excavator capable of 18" Diameter at 5' depth
- (60) 40lb bags of Concrete (30 bags per hole)

Parts List and Identification

Bill of Materials - 4-wide x 1-high		Bill of Materials - 4-wide x 2-high	
Solar Module: Kasco 310W - 330W		Solar Module: Kasco 310W - 330W	
Notes	Totals	Notes	Totals
Panel qty	4	Panel qty	8
12'-0" C - Channel Post (3.15x8)	2	12'-0" C - Channel Post (3.15x8)	2
11'-0" C - Channel Truss (3.15x8)	2	11'-0" C - Channel Truss (3.15x8)	2
Z-Channel Purlin (165.6")	2	Z-Channel Purlin (165.6")	4
Strut - 39.5"	0	Strut - 39.5"	2
1/2 x 1" Flanged Bolt	10	1/2 x 1" Flanged Bolt	10
1/2" Flanged Hex Nut	10	1/2" Flanged Hex Nut	10
5/8" Flanged Hex Nut, GR. 5	4	5/8" Flanged Hex Nut, GR. 5	4
5/8 x 4.75" Flanged Bolt	4	5/8 x 4.75" Flanged Bolt	4
#12x3/4" Self-Drilling Screws	8	#12x3/4" Self-Drilling Screws	8
12' Strongback	2	12' Strongback	2
Mid Clamps	6	Mid Clamps	12
End Clamps	4	End Clamps	8

Assembly Instructions

Setting Ground Post

Step 1

Excavate 2 holes 18" diameter and 5' deep. Holes should be directly east/west of each other as panels will be mounted to face the south. Holes should be 162" apart.

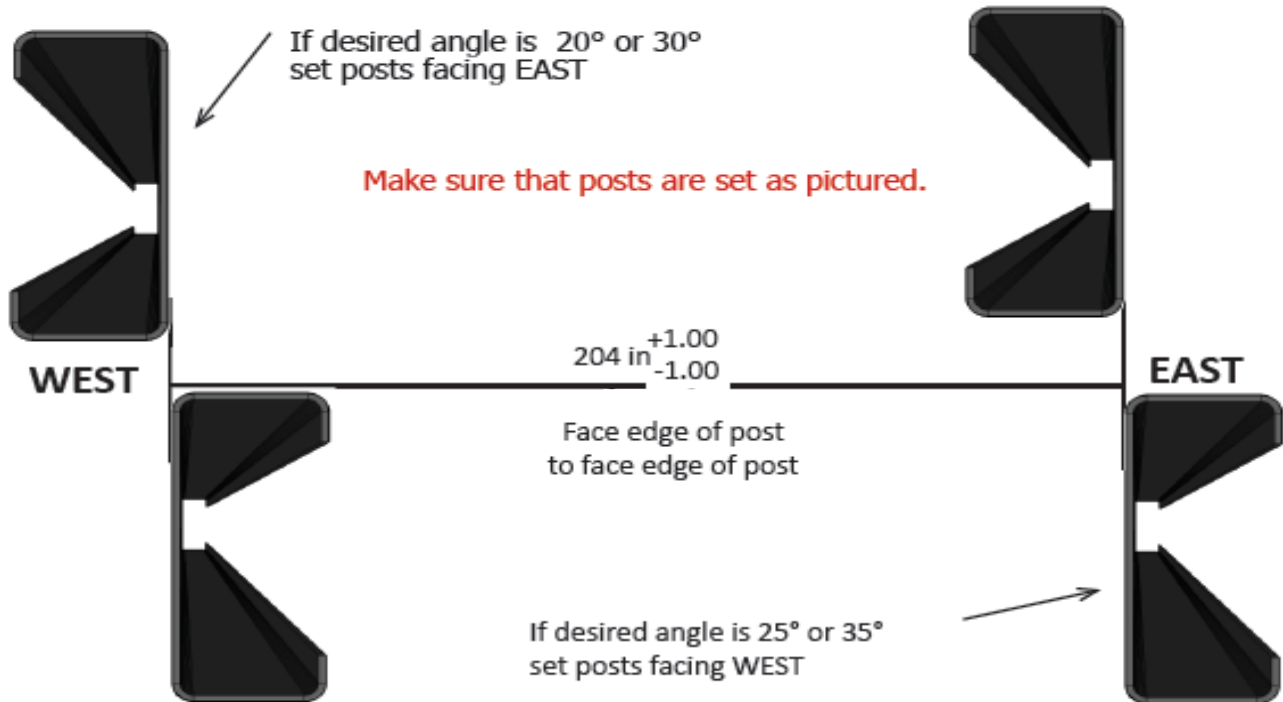
Setp 2

Determine the solar panel angle (20, 25, 30, or 35 degrees) and place the ground posts vertically in each hole 162" apart and oriented as seen below. (see map below to determine angle)

Step 3

Drive a ground rod into the ground and secure it to the posts using copper wire and a clamp. Mix concrete and fill holes.

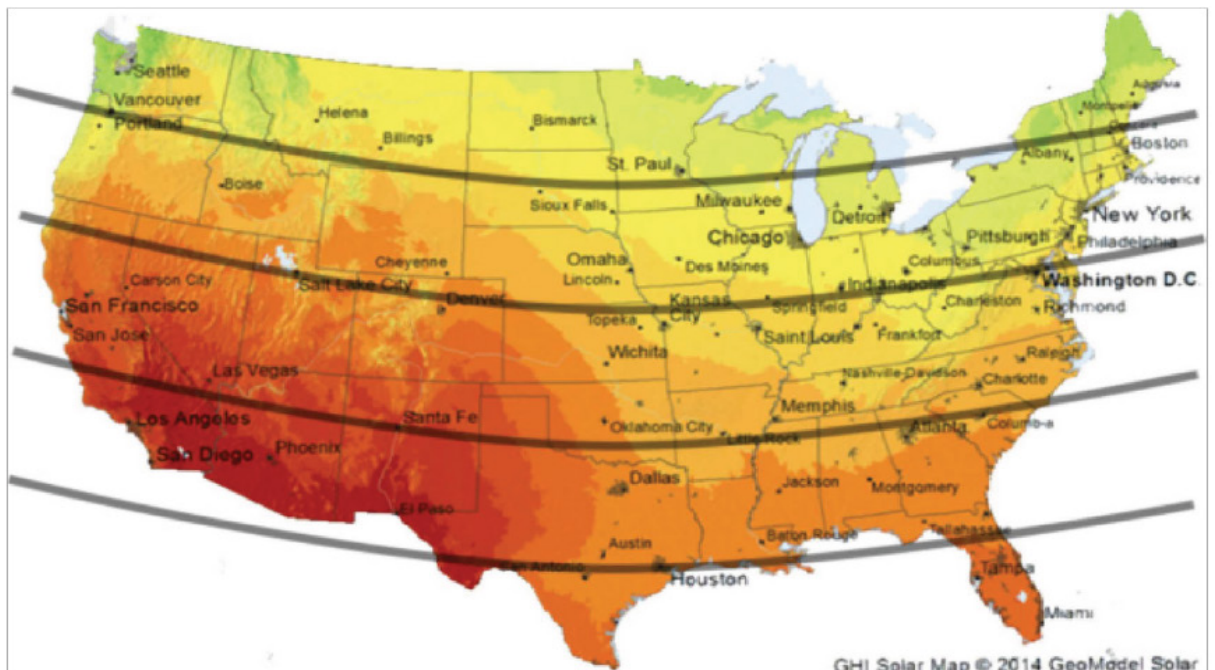
(Image is an overhead view)



35°

30°

25°



Truss Installation

Step 1

Fasten upper pivot bolt thru truss (SLR-TRUSS120) into ground post.

Step 2

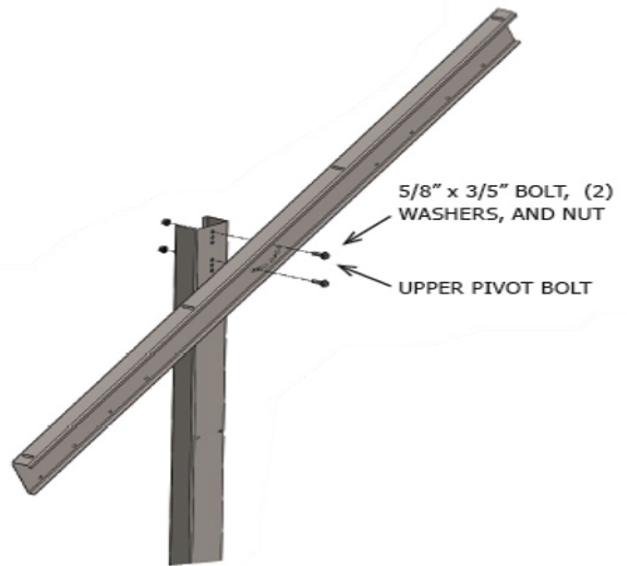
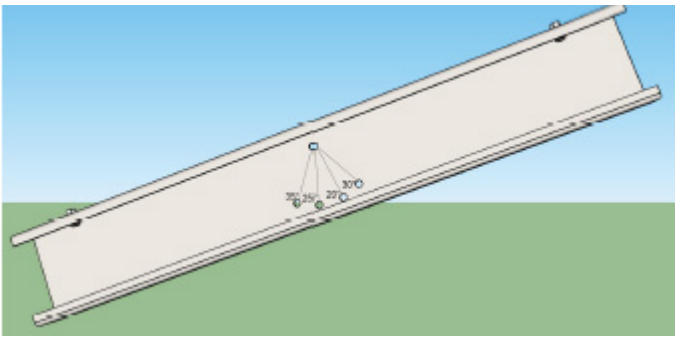
Select proper angle desired, see illustration below.

Step 3

Fasten lower bolt thru truss into ground post.

Step 4

Tighten this hardware.



Step 5

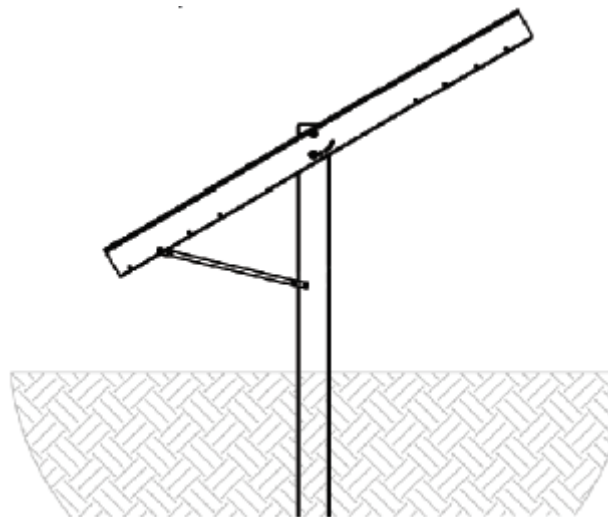
Align strut to the corresponding holes in truss and post based on tilt angle.

Step 6

Fasten 1/2" bolt through strut and post with washer and 1/2" nut on the inside of the post.

Step 7

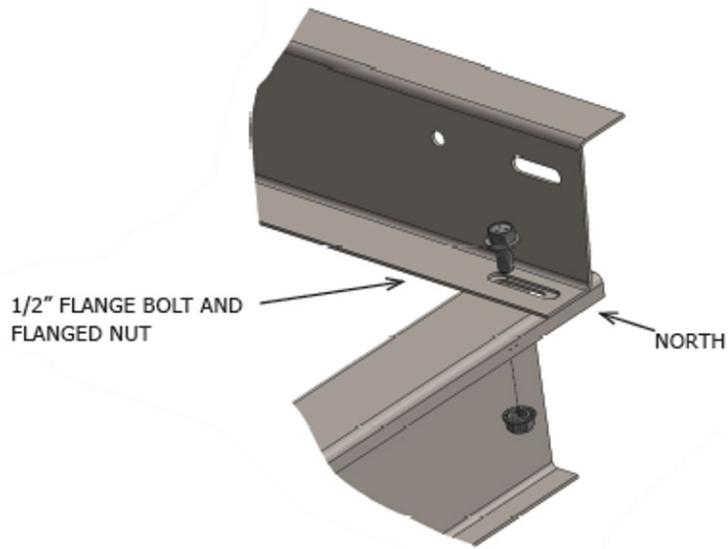
Fasten 1/2" bolt through strut and truss with washer and 1/2" nut on the inside of the truss.



Rail Installation

Step 1

Attach rails to truss as pictured using 1/2" flanged bolt, washer, and nut. Make sure all purlins are pointing north. (Northern Hemisphere installs)



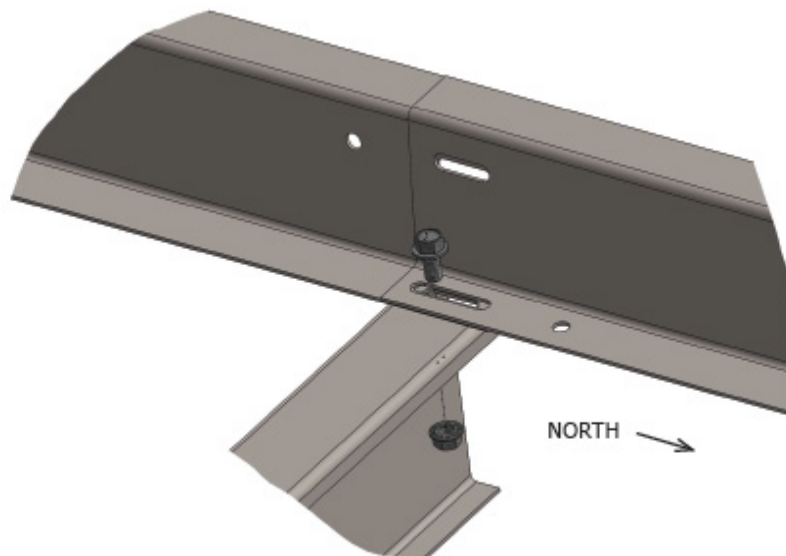
Add on Section Installation

Step 1

Attach additional section rails as pictured.

Step 2

Bolt in place as pictured. Tighten this hardware.



Panel Assembly and Installation

Step 1

Measure thickness of panel and adjust end clamp accordingly.

Step 2

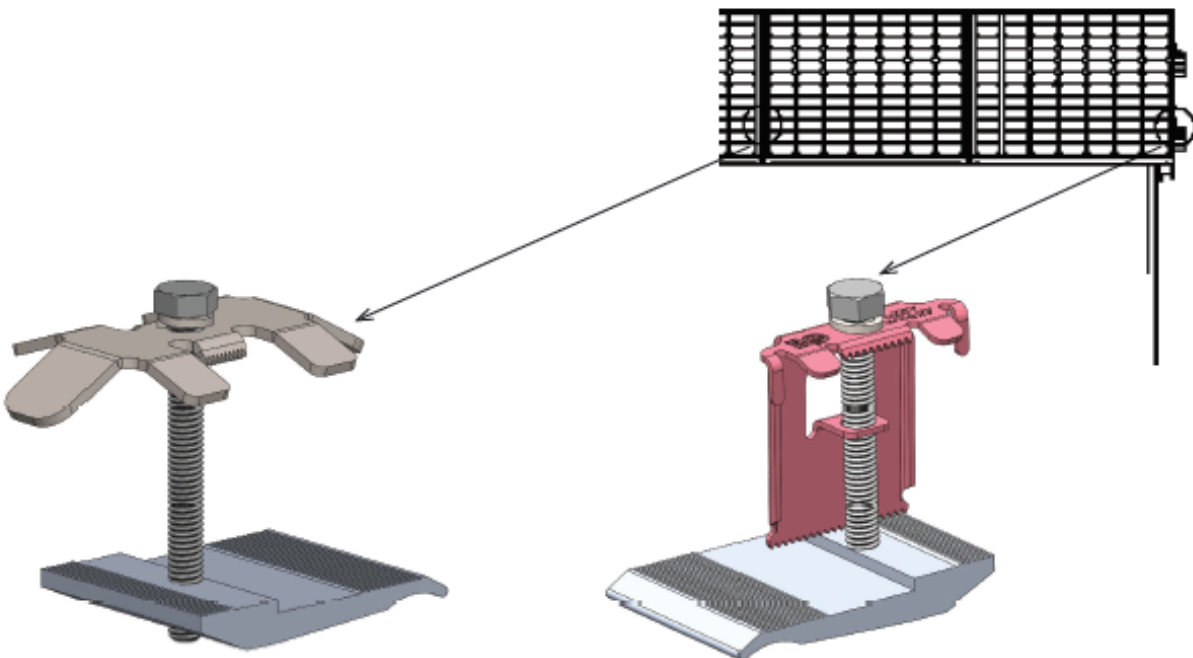
Place panels on rails.

Step 3

Secure panel in place with end clamps.

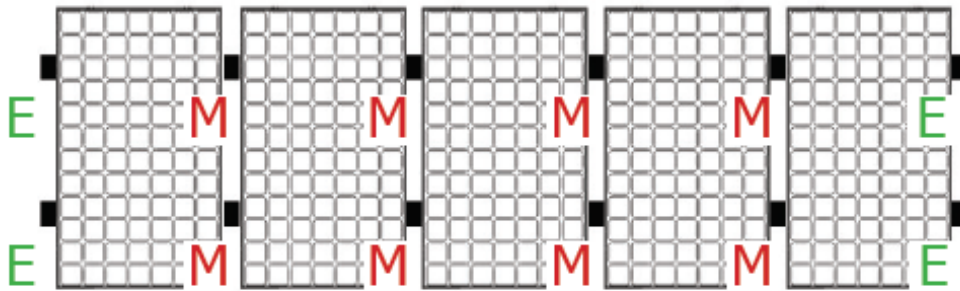
Step 4

Place second panels on rails in line with first panel. Secure the two panels together with the mid clamp as pictured.



M = MID CLAMP ON DIAGRAM

E = END CLAMP ON DIAGRAM



Solar Panel Wiring

Wiring Instructions

Step 1

Each module has two wires extending from the junction box, with each wire ending in an MC4 connector.

Step 2

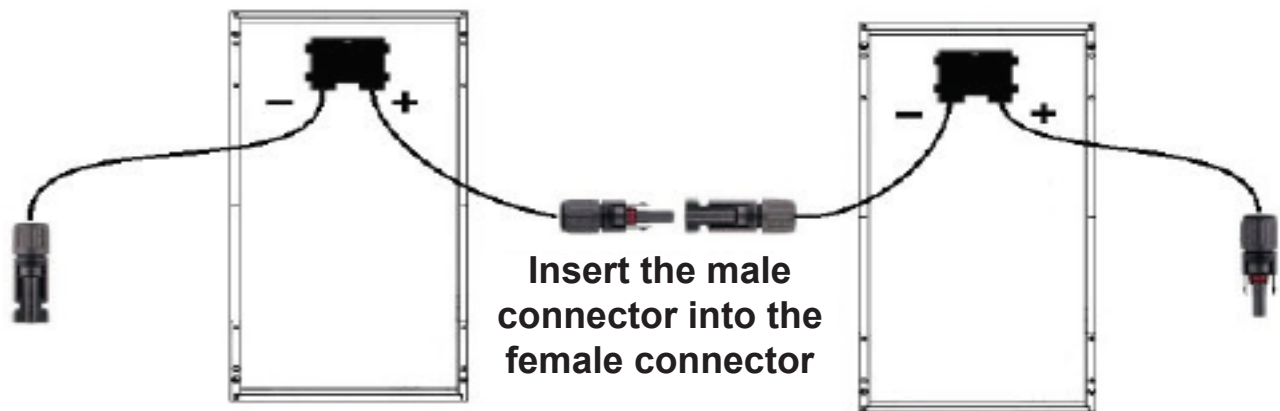
One wire is DC positive (+) and the other is DC negative (-) with each having either a Male or Female MC4 connection respectively.

Step 3

Series connections are made by wiring the modules together by connecting the positive lead on one module to the negative lead on another module.

Step 4

The male connector snaps directly into the female connector.



Install and connect the PicoCell™ Panel

Please refer to the PicoCell™ Installation Guide

Warranty

Kasco Marine's Solar products including mounts, frames, controllers, and drive assemblies are warranted to be free from defects in material and workmanship under normal use and service. Kasco Marine shall repair or replace defective equipment, at no charge to the buyer, for a period of (10) years after the final commissioning/in service date on mechanical mounting equipment.

This Warranty shall not apply to equipment which has been repaired or altered in any way without the written permission from Kasco Marine, or which has been subject to misuse, negligence or accident. This Warranty does not cover equipment which has been damaged by severe weather conditions such as excessive wind, ice, storms, lightning, or other natural occurrences of which Kasco Marine has no control, and this Warranty shall not apply to equipment which has been operated or installed other than in accordance with the instructions furnished by Kasco Marine.

Kasco Marine shall not be liable for:

- Defects due to improper use.
- Defects due to insertion of foreign components
- Defects due to acts of God
- Defects due to interventions, changes, modifications, or attempted repairs
- Defects due to non-compliance with the instructions in the assembly and connections guide
- Non-Compliance with State, Provincial, or Local Codes

Claimants under this Warranty shall present their claims along with the defective equipment to Kasco Marine immediately upon failure. Non-compliance with any part of this claim procedure may invalidate this warranty in whole or in part.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER AGREEMENTS AND WARRANTIES, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS LIMITED IN DURATION TO THE DURATION OF THIS WARRANTY. PATRIOT SOLAR GROUP DOES NOT AUTHORIZE ANY PERSON TO ASSUME FOR IT THE OBLIGATIONS CONTAINED IN THIS WARRANTY AND KASCO MARINE NEITHER ASSUMES NOR AUTHORIZES ANY REPRESENTATIVE OR OTHER PERSON TO ASSUME FOR IT ANY OTHER LIABILITY IN CONNECTION WITH THE EQUIPMENT DELIVERED OR PROVIDED. IN NO EVENT SHALL KASCO MARINE BE LIABLE FOR ANY LOSS OF PROFITS, LOSS OF USE, INTERRUPTION OF BUSINESS OR SERVICE, OR INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY KIND.

In no event shall Kasco Marine be liable for damages in an amount greater than the purchase price of the equipment that is deemed defective. Some states do not allow limitations on how long an implied warranty lasts, or allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

Kasco Marine has the right to void the warranty when the Solar racking is installed by someone other than a certified and/or state licensed installer/electrician or when the Kasco Marine Commissioning report has not been completed and returned with all information including certifications/representations of installer.

Policies subject to change without notice.