

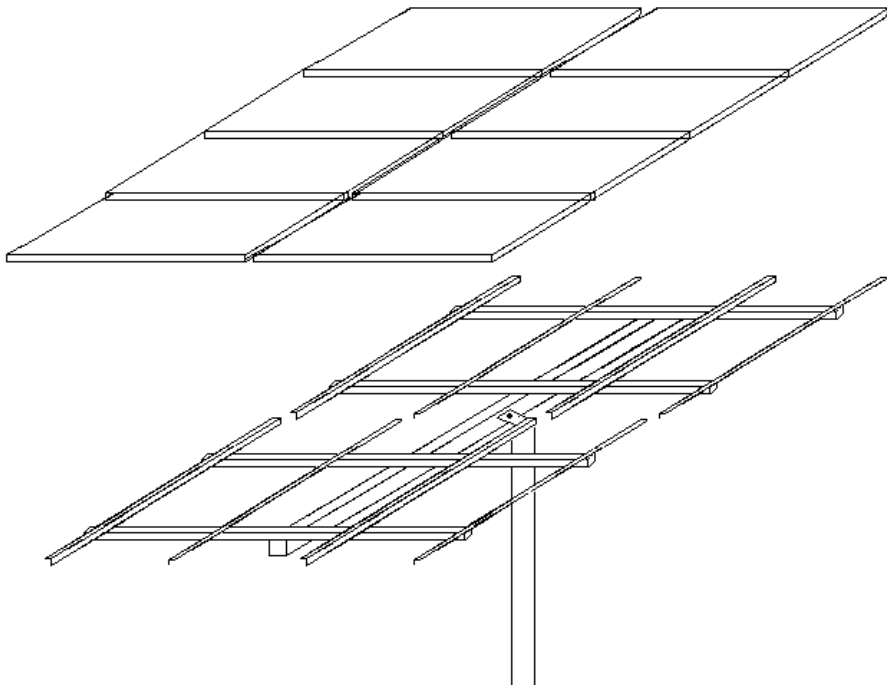
# POWERDAK

## Universal Top of Pole Mount Solar Rack System



The Powerdak Universal Solar Panel Rack 601318 is made of quality Powder Coated Heavy Gauge Steel and 6061 aluminum material. Each Powerdak Solar Rack is designed for easy installation with elevation angle adjustments for optimum solar efficiency.

# INSTALLATION INSTRUCTIONS 601318 8 PANEL UNIVERSAL SOLAR RACK



DATE: 3/2011

GENPRO POWER SYSTEMS  
3350 JET DR  
RAPID CITY SD 57703  
[www.genprocorp.com](http://www.genprocorp.com)  
Phone: 605-718-9960  
Fax: 605-718-9998  
Email: [sales@genprocorp.com](mailto:sales@genprocorp.com)

# POWERDAK

## Universal Top of Pole Mount Solar Rack System

\*\*MOUNTING POLE NOT SUPPLIED WITH RACK

\*\*IT IS THE INSTALLERS RESPONSIBILITY TO FOLLOW ALL LOCAL, REGIONAL AND NATIONAL BUILDING CODES



\*\*ALWAYS CALL 811 BEFORE DIGGING TO HAVE ALL BURIED CABLE, WATER LINES, AND GAS LINES MARKED

\*\*DO NOT INSTALL SOLAR ARRAY NEAR EQUIPMENT OR IN PLACES WHERE FLAMMABLE GASES MAY BE GENERATED

### "RULE OF THUMB" GUIDELINES FOR AVERAGE MOUNTING POLE INSTALLATION:

\*IT IS THE INSTALLERS RESPONSIBILITY TO VERIFY SOIL CONDITIONS.

\*SOIL CONDITIONS VARY FROM REGION TO REGION

\*SOIL CONDITIONS WILL DETERMINE THE ACTUAL DEPTH AND DIAMETER OF THE HOLE AND AMOUNT OF CONCRETE USED.

\*IF YOU ARE UNCERTAIN WE RECOMMEND YOU CONSULT A CIVIL ENGINEER IN YOUR AREA WHO IS FAMILIAR WITH LOCAL SOIL CONDITIONS AND WIND

RACK P/N	POLE SIZE (STEEL PIPE)	LENGTH IN GROUND (MIN.)	HEIGHT ABOVE GROUND	HOLE DIAMETER (MIN.)
601336	2.5" SCH 40 (2-7/8" OD)	34"	72"	10"-14"
601337	3" SCH 40 (3-1/2" OD)	36"	72"	12" -16"
601338	3" SCH 40 (3-1/2" OD)	42"	72"	16"-24"
601339	4" SCH 40 (4-1/2" OD)	42"	72"	16"-24"
601446	6" SCH 40 (6-5/8" OD)	48"	84"	24"-30"
601318	6" SCH 40 (6-5/8" OD)	48"	84"	24"-30"
601422	6" SCH 40 (6-5/8" OD)	48"	84"	24"-30"
601333	6" SCH 40 (6-5/8" OD)	48"	84"	24"-30"
601334	8" SCH 40 (8-5/8 OD)	60"	102"	30"-36"
601414	8" SCH 40 (8-5/8 OD)	60"	102"	30"-36"
601326	8" SCH 80 (8-5/8" OD)	72"	120"	36"

### "RULE-OF-THUMB" FOR TALLER POLE TO CLEAR OBSTRUCTIONS OR FOR ADDITIONAL SNOW CLEARANCE

\*FOR EVERY FOOT YOU ADD ABOVE GROUND YOU WILL NEED TO ADD APPROXIMATELY 6" IN THE GROUND IN CONCRETE.

\*NO MORE THAN A MAXIMUM OF 32" OF ADDITIONAL POLE HEIGHT. IF MORE HEIGHT IS REQUIRED A LARGER DIAMETER POLE WILL BE REQUIRED.

# POWERDAK

## Universal Top of Pole Mount Solar Rack System

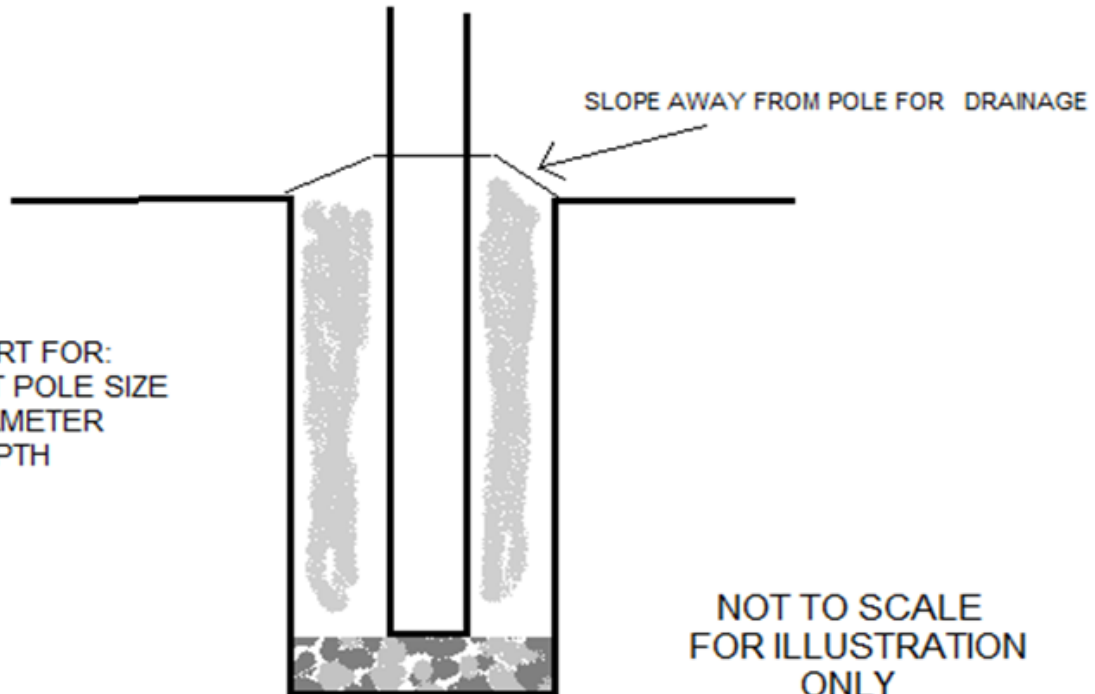


- \*\*WHEN SELECTING A INSTALLATION SITE ALWAYS CONTACT THE APPROPRIATE AUTHORITIES FOR SITE INSPECTION AND ANY NEEDED PERMITS.
- \*\*AVOID SHADING  
A SOLAR RACK IS CONSIDERED “SHADOW FREE” IF IT IS UNOBTURCTED ACROSS ITS ENTIRE SURFACE FOR THE WHOLE YEAR.
- \*\*ALWAYS CONSULT THE SOLAR MODULE MANUFACTURER’S INSTALLATION GUIDE FOR SPECIFIC INSTRUCTIONS TO THEIR MODULE.

### MOUNTING POLE INSTALLATION GENERAL PROCEDURE:

- \*\*ALWAYS CALL 811 BEFORE DIGGING TO HAVE ALL BURIED CABLE, WATER LINES, AND GAS LINES MARKED
- \*EXCAVATE THE HOLE 2" - 4" DEEPER THAN REQUIRED
- \*FILL THE BOTTOM 2" - 4" WITH GRAVEL TO ALLOW WATER DRAINAGE
- \*INSTALL MOUNTING POLE SO IT IS RESTING ON THE BOTTOM OF THE HOLE
- \*BRACE THE MOUNTING POLE SO THAT IS PLUMB
- \*FILL THE HOLE WITH CONCRETE, ADDING 2" - 3" ADDITIONAL TO SLOPE AWAY FROM POLE FOR DRAINAGE (FORM WITH TROWEL)
- \*ALLOW THE CONCRETE TO SET FOR A MINIMUM OF 24 HRS BEFORE REMOVING BRACING AND INSTALLING RACKING SYSTEM.

SEE CHART FOR:  
CORRECT POLE SIZE  
HOLE DIAMETER  
HOLE DEPTH



# POWERDAK

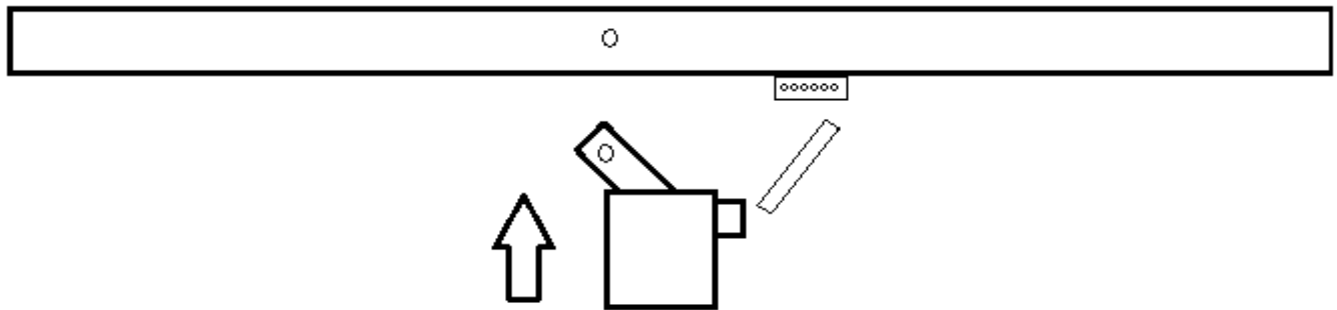
## Universal Top of Pole Mount Solar Rack System



- \*IT IS THE INSTALLERS RESPONSIBILITY TO FOLLOW ALL LOCAL, REGIONAL AND NATIONAL BUILDING CODES, INCLUDING ANY THAT SUPERCEDE THESE INSTRUCTIONS.
- \*IT IS THE INSTALLERS RESPONSIBILITY TO VERIFY LOCAL SOIL AND WIND CONDITIONS.
- \*SOLAR PHOTOVOLTAIC SYSTEMS AND RACKING REQUIRES SPECIALIZED SKILLS AND KNOWLEDGE. IT IS RECOMMENDED THAT INSTALLATIONS SHOULD BE PERFORMED BY QUALIFIED PERSONS.

\*VERIFY THE MOUNTING POLE IS STILL PLUMB AND HAS NOT MOVED WHILE THE CONCRETE HARDENED THE MINIMUM 24HRS.

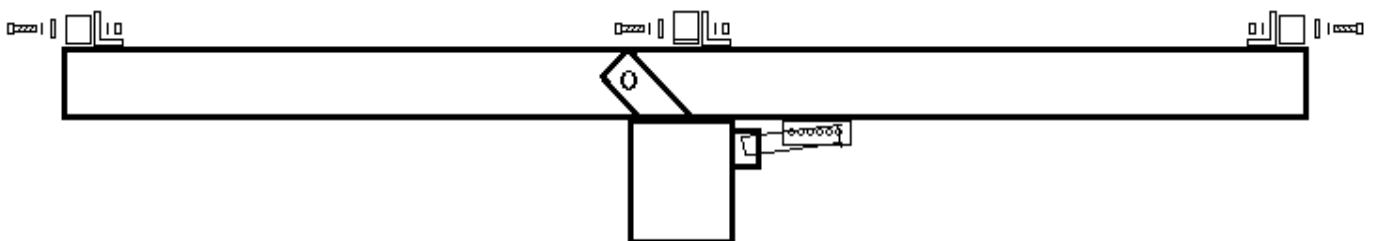
1. BOLT MOUNTING SLEEVE TO MAIN BEAM. (3/4" x 6" bolt/washer/lock washer/nut)



2. PLACE MAIN BEAM AND MOUNTING SLEEVE ON MOUNTING POLE. POINT IT TO THE SOUTH AND SECURE IT IN PLACE BY TIGHTENING THE FOUR SET BOLTS ON MOUNTING SLEEVE.

3. ATTACH ADJUSTMENT BAR TO MOUNTING SLEEVE AND MAIN BEAM AT THE FLATTEST POSITION FOR ASSEMBLY. (3/8" x 1 1/2" bolt/washer/nylock nut)

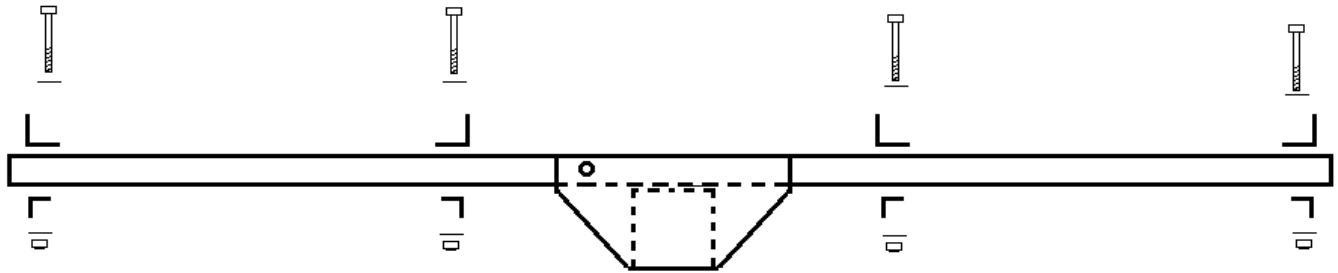
4. BOLT SUPPORT END CROSSBARS AND SUPPORT MIDDLE CROSSBAR TO MAIN BEAM. (3/8 X 3 1/2" bolt/washer/washer/nylock nut)  
(TIGHTEN THE BOLTS TO WHERE THEY ARE JUST SNUG BUT THE CROSSBARS CAN BE ADJUSTED DURING ASSEMBLY FOR PROPER ALIGNMENT.)



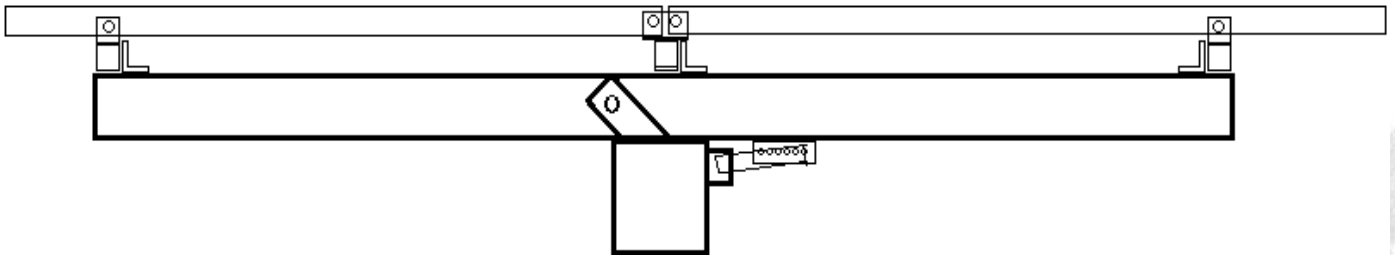
# POWERDAK

## Universal Top of Pole Mount Solar Rack System

5. BOLT THE ANGLE CLIPS TO THE SUPPORT END CROSSBARS AND SUPPORT MIDDLE CROSSBARS. (3/8" X 3 1/2" bolt/washer/washer/nylock nut)  
(TIGHTEN THE BOLTS TO WHERE THEY ARE JUST SNUG BUT THE ANGLE CLIPS CAN BE ADJUSTED DURING ASSEMBLY FOR PROPER ALIGNMENT.)



6. BOLT THE SUPPORT MODULE RAILS TO THE ANGLE CLIPS. (3/8" x 1 1/4" bolt/washer/washer/nylock nut) (TIGHTEN THE BOLTS TO WHERE THEY ARE JUST SNUG BUT THE SUPPORT MODULE RAILS CAN BE ADJUSTED DURING ASSEMBLY FOR PROPER ALIGNMENT.)



\*UNPACK PV MODULE PALLET WITH CARE, ALWAYS FOLLOW UNPACKING STEPS MARKED ON PALLET.

\*ALWAYS TAKE PRECAUTIONS WHEN UNPACKING, TRANSPORTING, AND STORING PV MODULES.

\*DO NOT CARRY PV MODULES BY THEIR WIRES OR JUNCTION BOX.

\*ALWAYS CARRY PV MODULES BY THEIR FRAME WITH TWO PEOPLE.

\*DO NOT PLACE PV MODULES ON TOP OF EACH OTHER.

\*DO NOT STAND, STEP, WALK AND / OR JUMP ON THE PV MODULE.

\*DO NOT LEAVE A PV MODULE UNSUPPORTED OR UNSECURED.

\*DO NOT DROP OR PLACE OBJECTS ON THE PV MODULES. (SUCH AS TOOLS)

\*DO NOT EXPOSE PV MODULES TO ARTIFICIALLY CONCENTRATED LIGHT SOURCES.

\*DO NOT INSTALL PV MODULES NEAR OPEN FLAMES OR FLAMMABLE MATERIALS.

\*REMOVE ALL METALLIC JEWELRY PRIOR TO INSTALLATIONS TO REDUCE THE CHANCE OF ACCIDENTAL EXPOSURE TO LIVE CIRCUITS.

\*DO NOT INSTALL OR HANDLE PV MODULES WHEN THEY ARE WET OR DURING PERIODS RAIN, SNOW AND HIGH WIND.

\*DO NOT USE OR INSTALL BROKEN MODULES.

\*DO NOT ATTEMPT TO REPAIR ANY PART OF THE MODULE, THERE ARE NO SERVICEABLE PARTS WITH THE PV MODULE.

\*KEEP THE JUNCTION BOX COVER CLOSED AT ALL TIMES.

\*DO NOT DRILL ADDITIONAL MOUNTING HOLES IN PV MODULE FRAME, THIS WILL VOID THE WARRANTY.



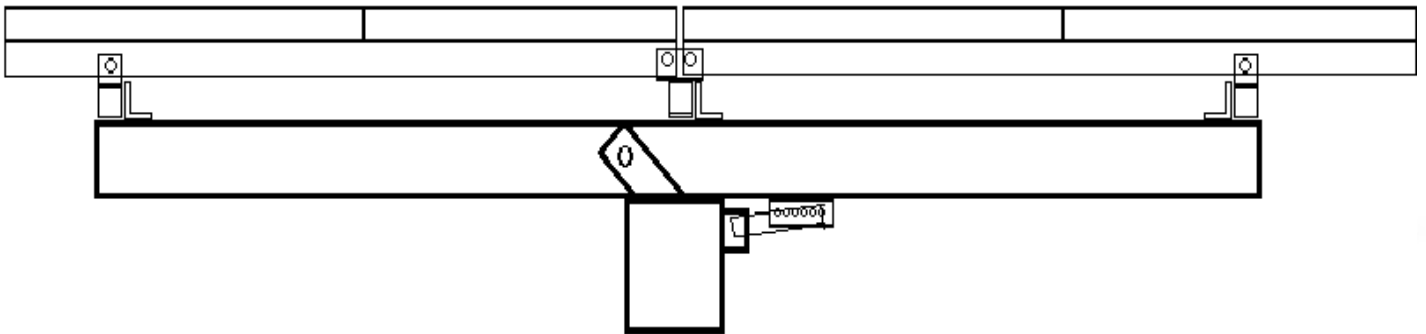
# POWERDAK

## Universal Top of Pole Mount Solar Rack System



\* ALWAYS CONSULT THE PV MODULE MANUFACTURE INSTALLATION GUIDE WHICH IS SPECIFIC TO THE PV MODULE YOU ARE USING FOR PROPER INSTALLATION REQUIREMENTS.

7. ATTACH YOUR SOLAR PANEL MODULES TO SOLAR MODULE RAILS. (4 places—1/4" X 3/4" bolt/washer/washer/nylock nut). (TIGHTEN THE BOLTS TO WHERE THEY ARE JUST SNUG BUT THE SOLAR MODULES CAN BE ADJUSTED DURING ASSEMBLY FOR PROPER ALIGNMENT.)



\*DO NOT DRILL ADDITIONAL HOLES OR MODIFY THE PV MODULE FRAME DOING SO WILL VOID THE WARRANTY.  
\*EACH MODULE MUST BE SECURELY FASTENED AT A MINIMUM OF 4 POINTS ON TWO OPPOSITE SIDES, IF ADDITIONAL WIND LOADS ARE ANTICIPATED FOR THIS INSTALLATION ADDITIONAL MOUNTING POINTS SHOULD BE USED.  
\*INSTALLER IS RESPONSIBLE FOR LOAD CALCULATION AND FOR PROPER SUPPORT STRUCTURE.

8. MAKE SURE YOUR PV MODULES ARE PROPERLY ALIGNED, SQUARE AND THEY HAVE A MINIMUM OF 1/8" GAP IN BETWEEN EACH MODULE.
9. TIGHTEN THE MODULE SUPPORT RAILS TO ANGLE CLIP. 32 FT-LBS
10. TIGHTEN THE ANGLE CLIP TO SUPPORT CROSSBARS. 32 FT-LBS
11. TIGHTEN THE CROSSBARS TO MAIN BEAM. 32 FT-LBS
12. TIGHTEN THE PV MODULES TO THE SUPPORT RAILS. 7 FT-LBS
13. LOOSEN THE PIVOT BOLT IN THE MAIN AND ADJUST TO DESIRED ANGLE AND RE-TIGHTEN THE PIVOT BOLT AND SECURE THE ADJUSTMENT BAR.
14. MAKE SURE ALL HARDWARE IS TIGHT.