

“DH SOLAR FIXED MOUNT”

BOLT TOGETHER INSTALLATION MANUAL

Some history of this product. We began spinning parabolic aluminum antennas in 1980 with our 5 meter commercial antenna and tracking mount. We have sold thousands all over the world to TV stations, cable companies and other commercial users to receive satellite signal. This tracking system worked so well that we have used the same mounting system with a sun tracking controller and framework that allows us to attach solar panels and track the sun. It's proven in the field and we know how well it works.



Our fixed racking system has an optional manual adjustment available. This adjustment will tilt your solar panels so they can maximize the sun's rays whether it is the longest day of the year, or the shortest day.

The Future is Now!
The Future is Now!



SOLAR
A Div of DH SATELLITE Inc.

*We update our manual periodically.
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Installing Base Post

2.1 Remove nuts from J-Bolts & pry off the wooden template.



2.2 Next, set base post so the holes align with the J-bolts.



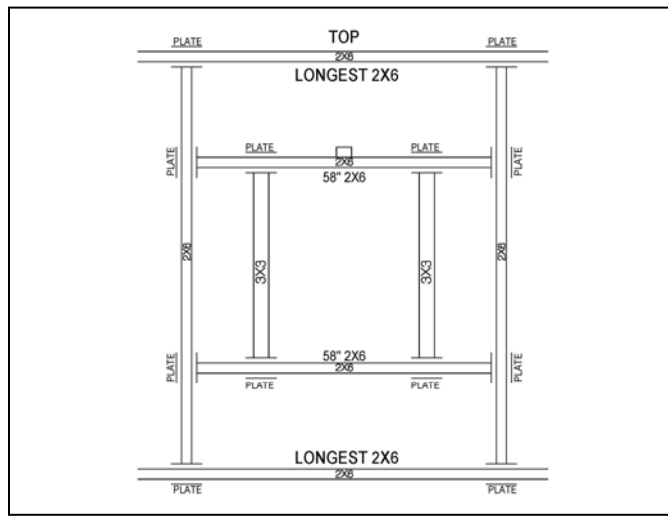
2.3 Once the post is sitting on the concrete pad, fasten and tighten the nuts to the J-bolts.



2.4 Once you have the nuts tightened, you will take the **base can** and slide it over the top of the post.



3. Next, you will need to assemble the “H” portion of the framework on the ground. Use the ½” x 3 ½” bolts to fasten the parts together. Make sure all of the nuts are on the inside of the framework.



4. Next, raise the main “H” frame up with a boom and lower the frame down, aligning the holes in the 3”x3” members of the “H” of the frame with the holes on the can mount.

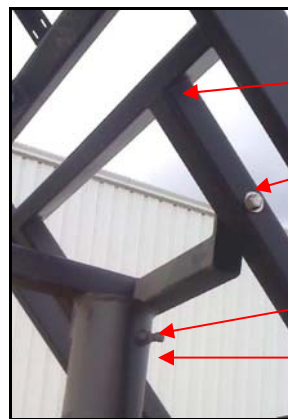
4a. Insert the ¾” x 5” bolts in each hole with a washer and secure with a lock washer and nut.

5. Next, you will need to install the solstice adjustment arm.

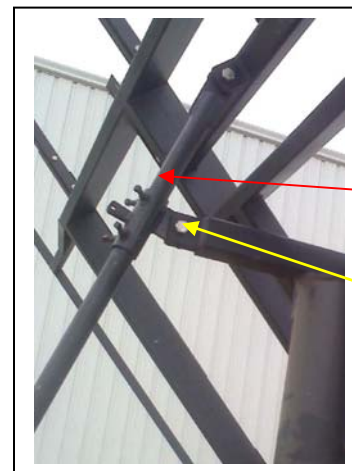
5a. First, secure the elevation tube to the “can” using a ¾” x 3” bolt, lock washer, & nut.

5b. Next, slip the elevation tube (if it is not already in), the flat piece will attach to the main framework, see illustration below.

5c. The set screws on the elevation tube can be loosened so you can lay the “H” framework back to install the vertical pieces and the panels in the next step.

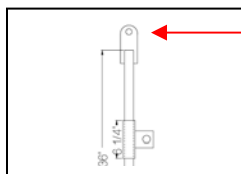


- “H” part of main frame
- Holes to line up, insert ¾” x 5” bolt
- Set Screws
- Can



Elevation Tube

5a. ¾” x 3” Bolt



This piece will fasten to the tabs on framework with a ¾” bolt, lock washer, nut.

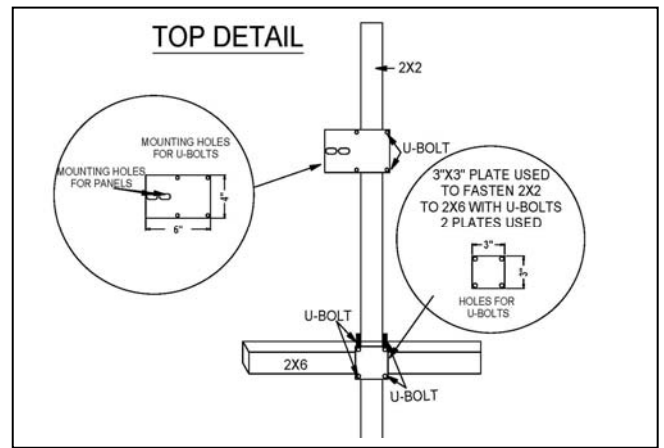
6. The next steps will be installing the 2x2 uprights on top of the 2x6’s. You will need to know your panel dimensions and the hole placements on the panels for fastening. You will be using the 8-5/8” U-bolts to attach the 2x2’s to the 2x6’s and the panel plates will be secured to the 2x2’s with the 2-1/2” U-bolts.

6a. You will need to find and mark the center of the long 2x6’s between the “H” frame. This will be your starting reference point. At this center point, the center 2 panels will meet. To do this, put one of the long 2x2 pieces up on top of the 2x6’s. Next, take one of the panel plates and hand tighten it with a short u-bolt to the 2x2. If you are working from the bottom of the frame, you will want the plate to face left. Slide the 2x2 over so that the middle of the panel plate’s two holes is centered in line with the mark you made.

6b. Very important! You need to make sure that the 2x2 overhangs the 2x6’s evenly on both the top and bottom. Ex: For our Suntech panel layout, we have 37” of the 2x2 above the “H” frame and below.

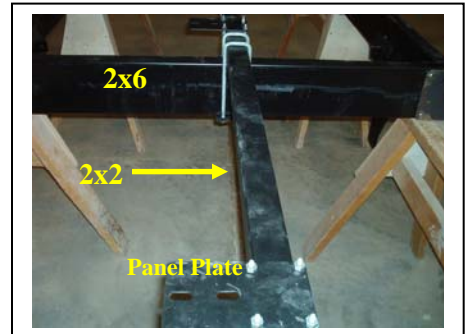
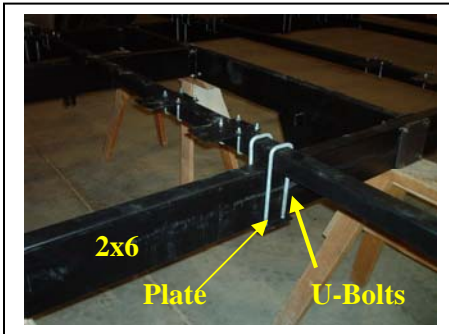
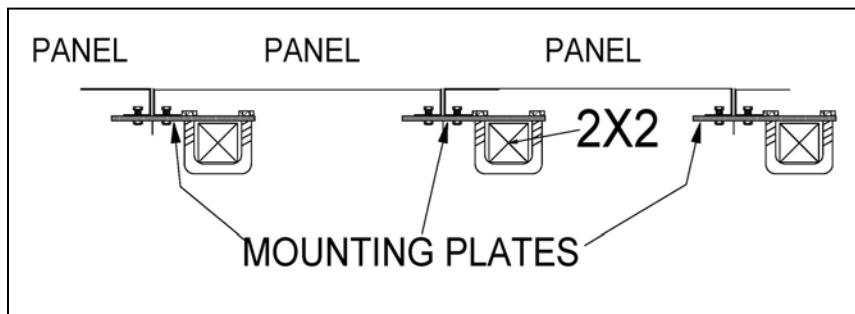


The picture on the left is the panel plate and also shows a white line which represents where the panels will meet on the plate. The white line is centered on the 2x6. The oval holes are used to secure the panels.



6b. Once you have found where the two center panels will meet, secure the 2x2 to each of the two 2x6's with two 8-5/8" U-bolts and a square plate as shown in the illustration to the right. Notice the picture above right, your centerline white mark on the 2x6 should be between the two mounting holes on the panel plate. Once you have line it up, fasten the U-bolts to both the 2x2 to the 2x6. Be sure that before securing the 2x2 that both ends are squared up.

6c. Once you have the 2x2 secured to the 2x6's, you will need to measure out the hole placements on the back of your panels. You will want to measure the side holes (Our Suntech panels measure 37" apart). Once you have the measurement you will know how far apart the next panel plate will need to be. Since our panels holes were 37" apart, we put the next 2x2 37" apart based on the panel plate's slotted holes. If you are figuring out the middle left panels first, remember that the holes on the panel plate nearest to the U-bolt holes will be used. *See Illustration below.*



6d. When you have two 2x2's in place you will want to lightly attach panel plates to them for the center panel. Move the plates up or down on the 2x2's to line up the mounting holes. On Page 6, there is a diagram of a 16 panel layout and where the panel plates are located. **These are for Schott panels only!! You will need to figure out the spacing if you are using another manufacture's panels. This is shown for reference only!**

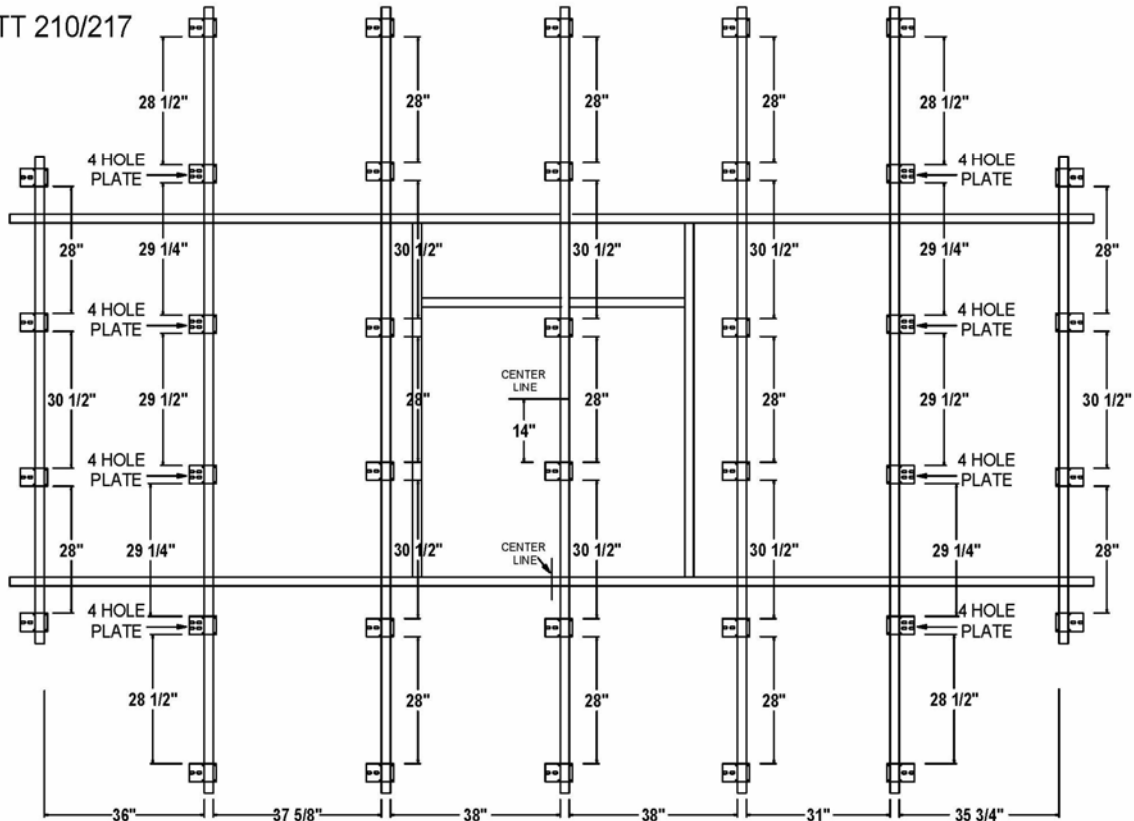
6e. You will notice on the far right 2x2 that the panel plates are facing the opposite direction. This is done so there is room for adjustment on the 2x6. Since the plates are facing the other way, the distance from the previous 2x2 to this one will be less.

6f. If you assembled the framework on the ground, you will want to go back to **Step #5** for instructions to lift the framework onto the horizon mount. If you assembled the framework on the horizon mount already, then continue on to **Step #7**.

THIS IS A LAYOUT FOR SCHOTT 210/217 WATT 16 PANELS ONLY!, YOUR PANELS' LAYOUT WILL VARY!

If your system didn't come with 4 hole plates, your panels don't need them. Use the normal 2 hole plates that align with your panels' mounting holes

SCHOTT 210/217



You are now ready to put panels on. Remember to install grounding clips and ground the system accordingly per the National Electrical Code specifications.

7. Once all of your panels are on, be sure to check all the nuts and bolts on the framework to ensure they are all tightened.

7a. You will then need to align the rack of panels facing South according to your location. Once you have determined your South location, you will need to tighten the set screws on the "can" of the system(picture from previous page). Be sure that these set screws are tighten very securely so that they will not move during high winds. Failure to tighten the set screws may result in your system pivoting on the pole and damaging your panels as they may hit the ground.



Optional Adjustment Jack

If you have purchased the optional jack adjustment, you will have these additional steps.

8. First, loosen the set screws on the elevation clamp & raise the elevation tube up so that the frame and panels move in an upright position.

8b. Tighten up the set screws.

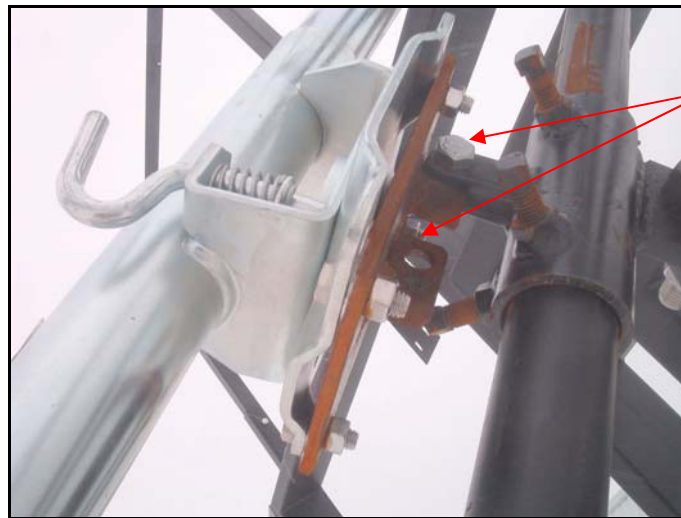
8c. You then will need to install the elevation plate to the elevation tube with $\frac{1}{2}$ " x $1\frac{1}{2}$ " bolts, washers, nuts.

8d. Once the plate is secured, you will need to bolt the adjustable jack to the plate using (4) $\frac{3}{8}$ " x 1" bolts, washers, nuts.

8e. Next, crank the jack upward towards the frame, you can lower the frame backwards by loosening the set screws and pulling back on the elevation tube until the jack is close to the frame. Then retighten the set screws.

8f. Fasten the elevation clamp just below the top of the elevation tube that is wider with the provided U-bolt as shown in the picture.

8g. Once the U-bolt is tightened, fasten the jack to the elevation clamp with the bolt & nut.



Fasten plate to Elevation tube



Elevation clamp

Wide part of Elevation tube

U-Bolt



Using the Adjustment Jack

The adjustment jack is used to make easy angle adjustments of your solar panels. Remember that whenever you want to adjust the jack, you must loosen the set screws on the elevation tube and then remember you must tighten the set screws once your adjustments are made. You may make adjustments a few times a year as the sun rises and lowers in the horizon. During the summer, you may lay the panels further back. In the winter, you may lift the panels more upright to maximize the sun's rays.