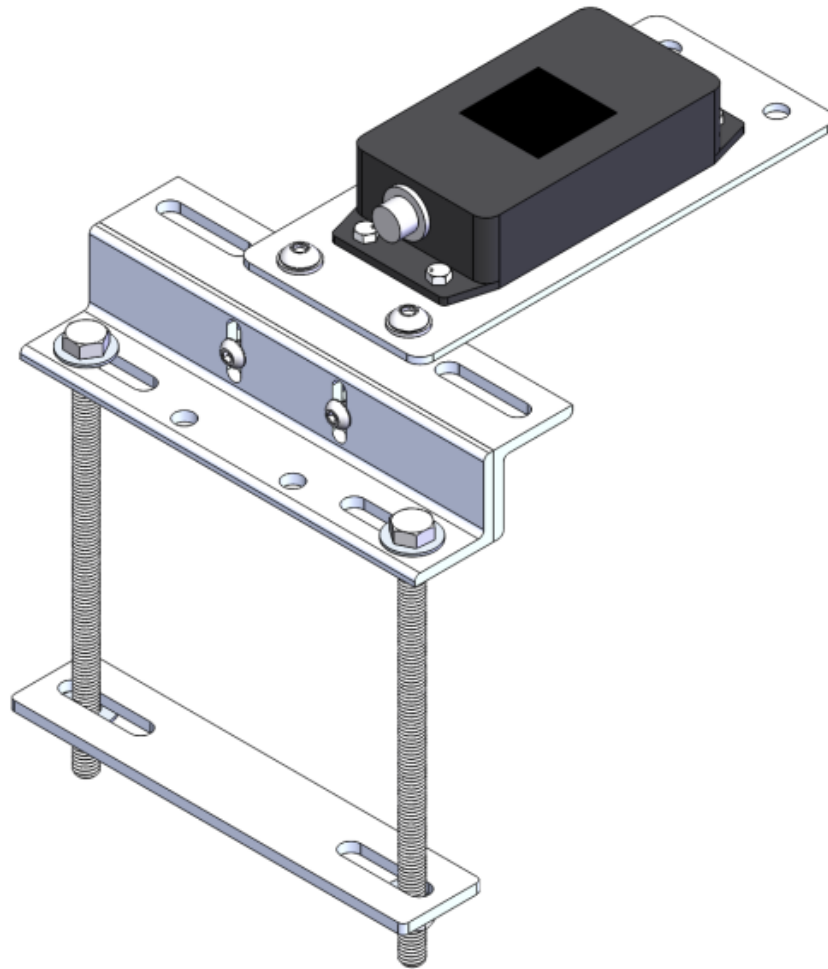




Solar | Array Mounted Reference Cell Square Torque Tube #16977

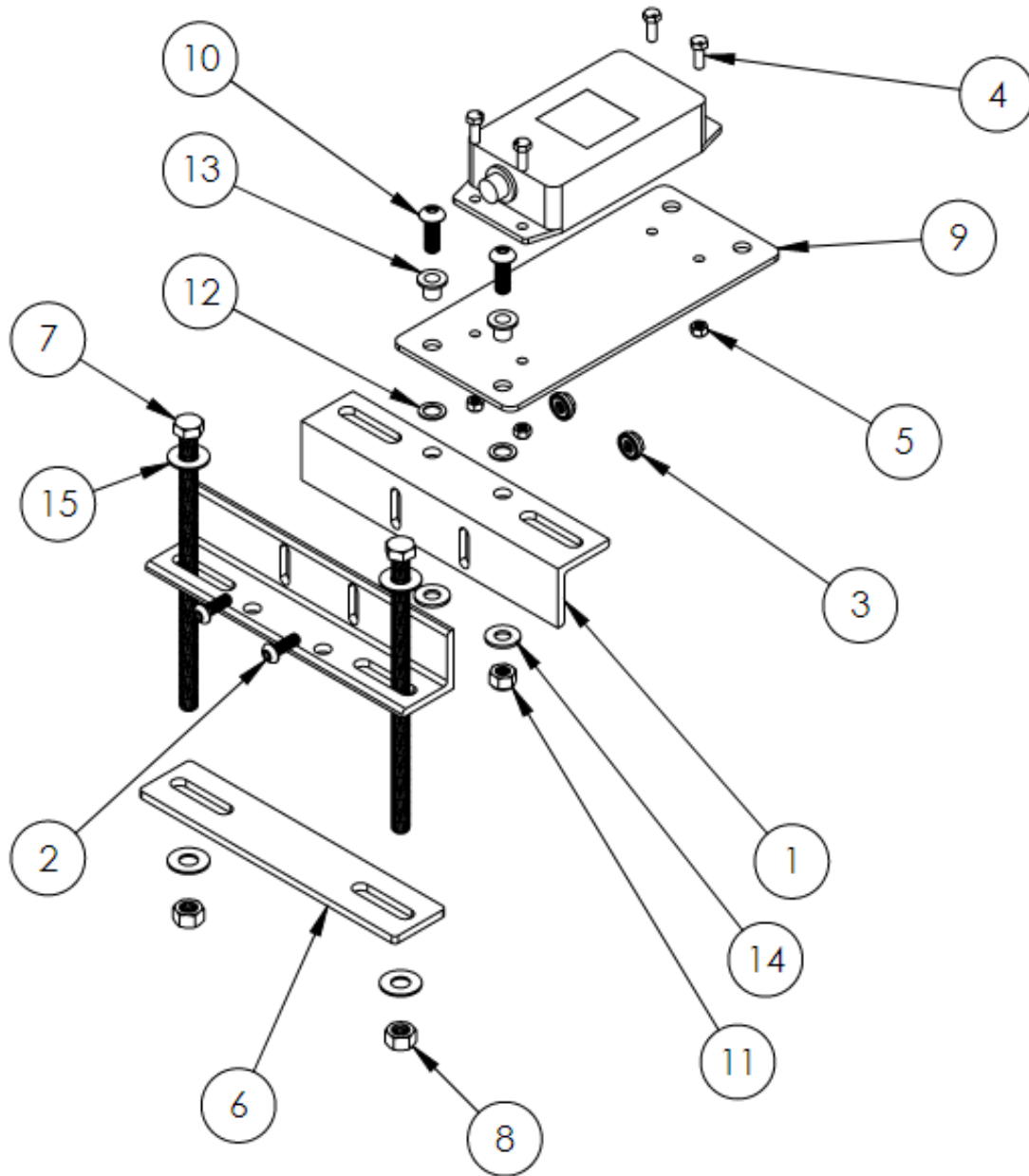
Introduction

Kit #16977 was designed to mount a reference cell sensor to a square torque tube using Mounting Plate #16091 and Angle Bracket #15821.





Solar | Array Mounted Reference Cell Square Torque Tube
#16977



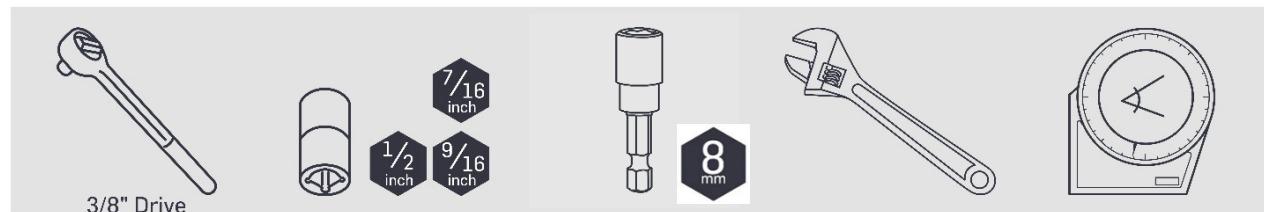


Solar | Array Mounted Reference Cell Square Torque Tube #16977

#16977: Parts/BOM

NRG Part Number	Part Description	Part Specification Notes	Qty	Diagram Key
10194	Screw	Screw, Cap, M5 x .8mm, 14mm Length	4	4
12022	Button Head Screw	1/4-20 thread 0.75" length Stainless	2	2
12095	Washer	Washer, .375 Inch x .875 OD, SS	4	15
14975	Nut	Nut, M5, Stainless, Nylock	4	5
14979	Nyloc Nut	5/16-18 thread Stainless	2	11
14980	Button Head Screw	5/16-18 thread 0.875" length Stainless	2	10
15756	Reference Cell Plate	Plate, Reference Cell, Boom Mount	1	9
15821	Angle Bracket	Pre-drilled angled aluminum	2	1
15869	Serrated Flange Locknut	1/4-20 Threaded Stainless	2	3
16091	Bottom Plate	Bottom Plate, Square Torque Tube POA, Universal	1	6
16101	Nut	Nut, .375-16, Hex, 18-8 SS	2	8
17245	Screw	.375-16, Hex Head Screw, 7in, fully threaded, 18-8 SS	2	7
18249	Nylon washers	Washer, Nylon, .34 ID	2	14
18250	Nylon washers	Washer, Nylon, .375 ID	2	12
18251	Nylon sleeve washer	Washer, Sleeve, Nylon, .3125 ID	2	13

Tools



Apply a small amount of anti-seize to the bolt threads.





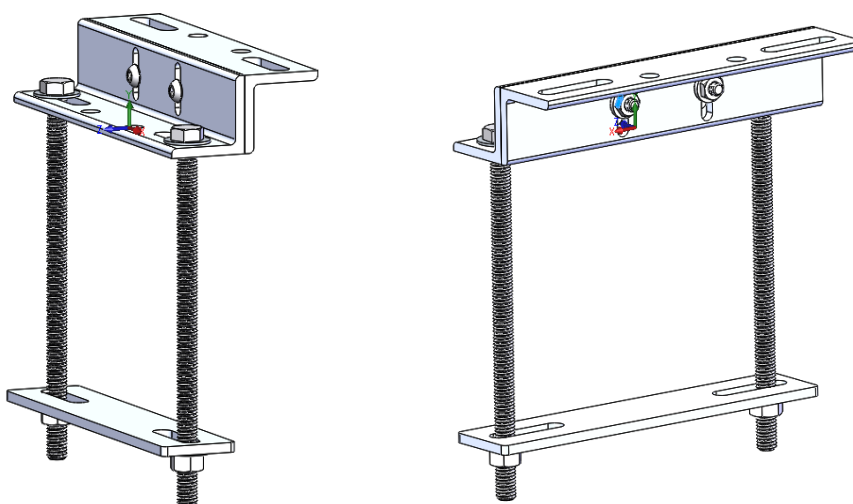
Solar | Array Mounted Reference Cell Square Torque Tube #16977

Procedure

1. Clamp the Angle Bracket #15821 and Bottom Plate #16091 to the torque tube using the #17245 bolts and secure with the #16101 nuts with a #12095 washer on each.



2. Loosely fasten the other Angle Bracket #15821 to the other using the #12022 button head screws and #15869 flange locknuts.

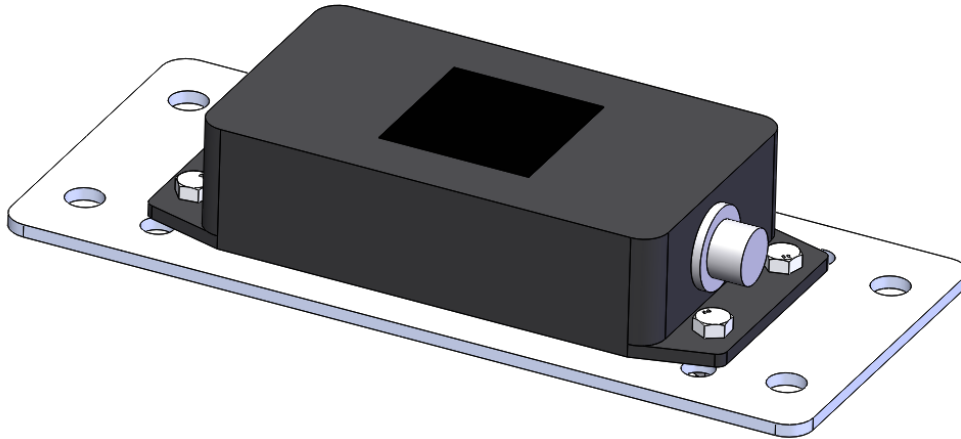




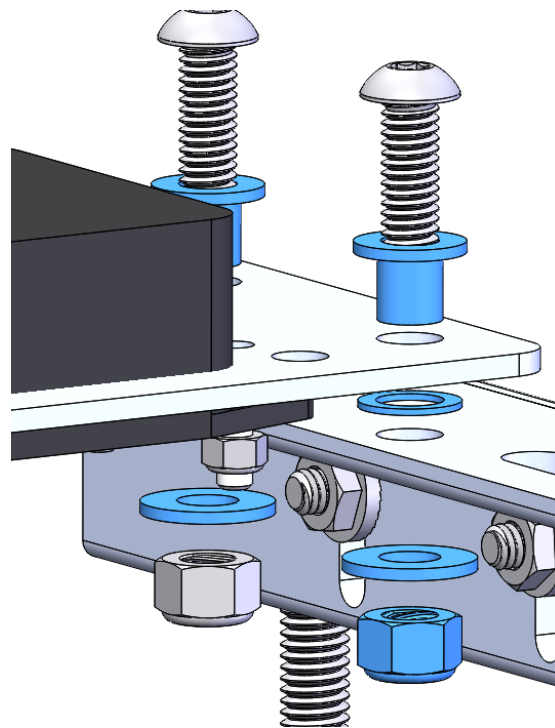
Solar | Array Mounted Reference Cell Square Torque Tube #16977

3. Mount the reference cell sensor to the #15756 mounting plate using #10194 screws and #14975 nuts.

Note: Do not overtighten the nuts.



4. Mount the above assembly to the bracket assembly utilizing the nylon washers and sleeve washers as shown below.





Solar | Array Mounted Reference Cell Square Torque Tube #16977

Insert the #14980 screws into the sleeve washers #18251 and then through the holes in the Mounting Plate. Add nylon washers #18250 to the ends of the screws, and insert the screws through the holes in the angle bracket #15821. Add nylon washers #18249 to the ends of the screws before adding the nuts as shown below. Nylon washers are represented in blue.

5. Check that the reference cell is at the correct angle along both axes. Adjust if necessary and then tighten all hardware.



It is critical that the reference cell be at the same angle/level as the PV panels.

If possible, level the array table and then install the sensor, taking care that the reference cell mount is at the same level as the PV panels.



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Additional Configurations

Reference Cell Mount #16977 can be assembled in several ways for more adjustability. RPOA (not shown) is also possible.

"T" Configuration (to reduce sensor height)

