

SOLAR COLLECTOR FLAT ROOF MOUNTING INSTRUCTIONS

CAUTION

ALL PERSONS WORKING ON ROOFS SHOULD HAVE SUCCESSFULLY COMPLETED A FALL SAFETY COURSE AND SHOULD BE PROPERLY EQUIPPED WITH THE APPROPRIATE SAFETY EQUIPMENT

⚠ WARNING

AFTER COMPLETION OF THE COLLECTOR MOUNTING AND PRIOR TO SYSTEM CHARGING THE COLLECTORS MUST BE COVERED BY A BLANKET OR OTHER MEANS TO AVOID SOLAR RADIATION FROM HEATING THE COLLECTORS. THE SURFACES OF THE COLLECTOR CAN BECOME EXTREMELY HOT AND COULD POSE A BURN HAZARD.

The most important structural consideration is to securely anchor the solar collector and the mounting hardware to the

structural members of the roof with the stainless steel hardware provided. The solar collector must be attached to the mounting hardware. See Figure 8.

Preserving the integrity of the roof membrane is the most important roofing consideration. Ensure that all roof penetrations required to plumb and mount the solar collector are properly flashed and sealed in accordance with standard roofing practices.

If the region is subject to hurricane conditions, additional steps may be required to secure the collector and mounting hardware to the structural members. In certain areas of the country, local building codes may require collector wind load testing or prescribe specific mounting procedures. Consult your local building department.

Install the collectors as described in the Flat Roof Mounting instructions.

BASIC TOOLS AND MATERIALS

Drill & Drill Bits
#3 Phillips Head Bit
#3 Phillips Head Screwdriver
Extension Cord
Tape Measure
Chalk Line
Utility Knife
Level
Pliers

8" & 10" Adjustable Wrenches
7/16" & 9/16" Wrenches
Ratchet & 7/16" & 9/16" Sockets
Target Patch (Flashing)
Roof Sealant
6' x 8' or 6' x 10' Tarp (1 per collector)

Installation Hardware (Supplied) Includes:
• Hardware & Mounting Brackets

FLAT ROOF MOUNTING

PREPARATION:

- Determine the type of roof that the solar collector flat roof mounting hardware is to be installed on.
- Determine the roof construction, i.e.,
 - Roofing material over insulation, over steel deck
 - Roofing material over insulation, over wood deck
 - Roofing material over insulation, over concrete deck
 - Roofing material over wood deck only
 - Roofing material over concrete deck only
 - Roofing material over recovery board, insulation, and wood, concrete, or metal
 - Other
- Choose the appropriate fastener to work in conjunction with the given roof construction. #14 x 3" Heavy Duty Roof Fasteners have been included with this kit to cover the majority of roof constructions. If a longer fastener is required, use only OMG brand or equivalent. Be sure the fasteners are long enough to penetrate the deck. OMG Heavy Duty Roof Fasteners for concrete and other decks will need to be determined by your installer or architect. See Figure 7.

INSTALLATION INSTRUCTIONS

- Locate the mounting points from Figures 1 & 2 and Table 1 for vertical mount. Figures 3 & 4 and Table 2 for horizontal mount. Layout the roof as specified.
- Place the base plate on top of the finished roof (the base plate is the flat metal piece with two threaded studs). Align the base plate so that the studs are oriented in the desired direction for application of the top plate.
- Install the included #14 x 3" OMG Heavy Duty Roof Fasteners or other suitable fasteners (dependent upon the roofing material type) through the holes in the perimeter of the base plate. See Figures 5 & 8.
- Apply a generous amount of an approved roof sealant around the base of the threaded rods.
- Install a 10" x 10" target patch (patch material is to match the roofing material installed on the roof) over the base plate. Cut two small holes in the target patch so that when it is installed it will fit tightly over the threaded studs and be centered over the base plate. See Figure 6.
- Apply target patch over the base plate using proper mastic techniques so as to create a water tight patch. This will vary dependent upon the type of roofing material.

7. The threaded studs should be the only part of the base plate that is exposed. There may be bleed out of the sealant applied around the studs. When the top plate is installed this will help create a water tight compression fitting. See Figure 5.
8. Install the top plate over the base plate threaded studs. The top plate should be centered on the base plate when

- installed properly. See Figure 5.
9. Install an EPDM bonded washer, stainless steel lock washer, and hex nut over each stud and tighten. See Figure 5.
10. Repeat steps as needed for the remainder of the mounting bracket locations.

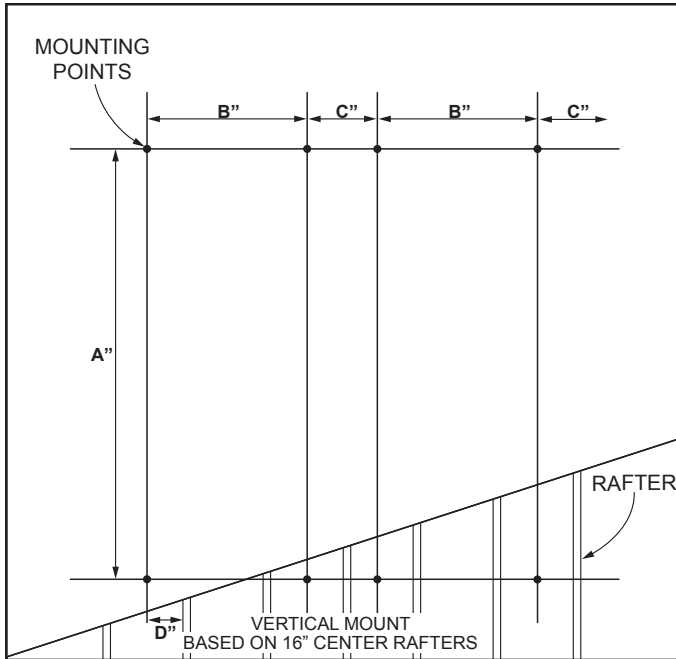


Figure 1.

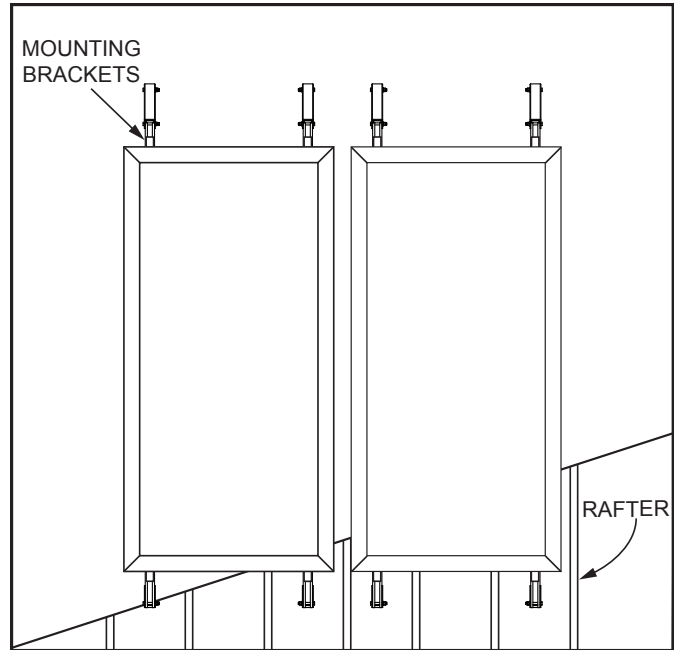


Figure 2.

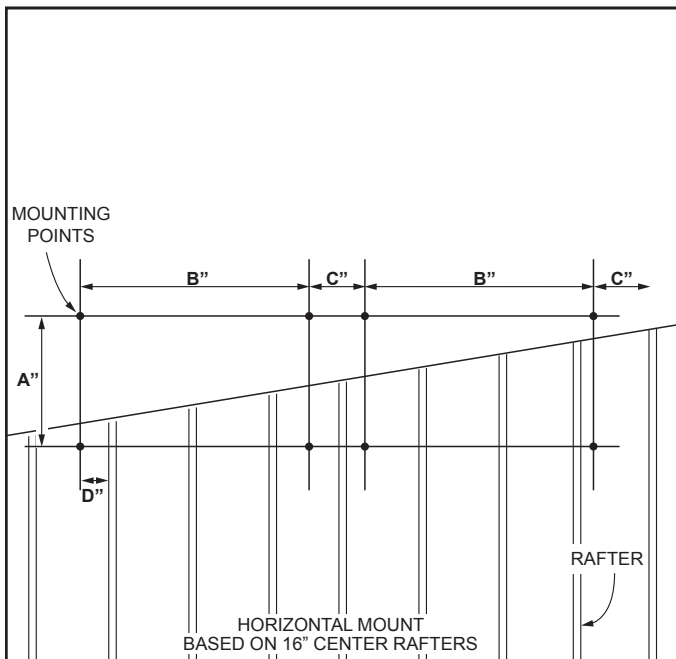


Figure 3.

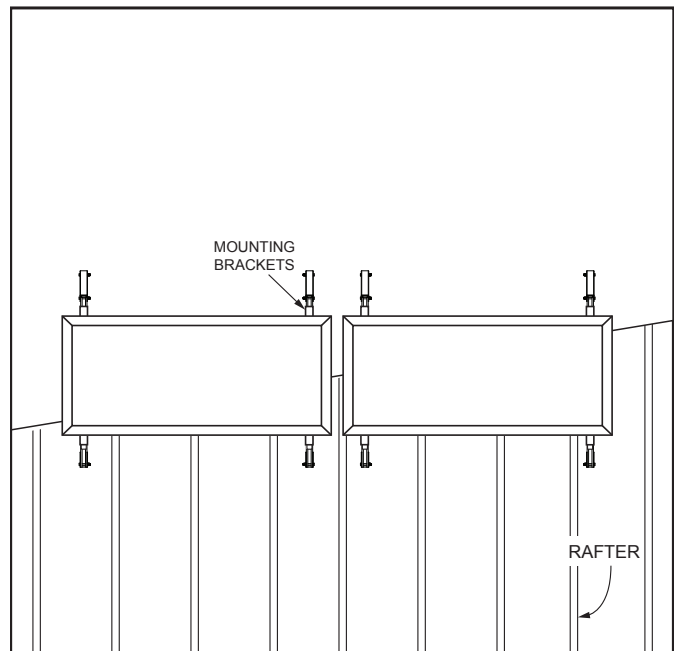


Figure 4.

NOTICE

WHEN MOUNTING THE TILT MOUNT KIT REFER TO THE SOLAR COLLECTOR TILT MOUNT INSTRUCTIONS FOR ASSEMBLY.

* THE "A" DIMENSION IS USED FOR MOUNTING WITH THE TILT MOUNT KIT ONLY.

COLLECTOR	TILT ANGLE	"A" *	"B"	"C"	"D"
Vert 3.5' X 7'	15°	91.00	32.00	14.00	7.25
Vert 3.5' X 7'	30°	84.00	32.00	14.00	7.25
Vert 3.5' X 7'	45°	73.00	32.00	14.00	7.25
Vert 3.5' X 7'	60°	40.25	32.00	14.00	7.25
Vert 3.5' X 7'	75°	26.50	32.00	14.00	7.25
Vert 4' X 8'	15°	95.75	35.00	16.00	11.75
Vert 4' X 8'	30°	87.50	35.00	16.00	11.75
Vert 4' X 8'	45°	77.25	35.00	16.00	11.75
Vert 4' X 8'	60°	48.00	35.00	16.00	11.75
Vert 4' X 8'	75°	27.50	35.00	16.00	11.75
Vert 4' X 10'	15°	119.25	35.00	16.00	11.75
Vert 4' X 10'	30°	106.00	35.00	16.00	11.75
Vert 4' X 10'	45°	92.75	35.00	16.00	11.75
Vert 4' X 10'	60°	65.00	35.00	16.00	11.75
Vert 4' X 10'	75°	61.50	35.00	16.00	11.75

Table 1.

COLLECTOR	TILT ANGLE	"A" *	"B"	"C"	"D"
Horiz 3.5' X 7'	15°	44.00	62.00	28.00	13.50
Horiz 3.5' X 7'	30°	40.25	62.00	28.00	13.50
Horiz 3.5' X 7'	45°	31.75	62.00	28.00	13.50
Horiz 3.5' X 7'	60°	20.50	62.00	28.00	13.50
Horiz 3.5' X 7'	75°	9.00	62.00	28.00	13.50
Horiz 4' X 8'	15°	50.00	72.00	28.00	12.00
Horiz 4' X 8'	30°	45.25	72.00	28.00	12.00
Horiz 4' X 8'	45°	37.50	72.00	28.00	12.00
Horiz 4' X 8'	60°	27.75	72.00	28.00	12.00
Horiz 4' X 8'	75°	14.75	72.00	28.00	12.00
Horiz 4' X 10'	15°	50.00	94.00	30.00	9.00
Horiz 4' X 10'	30°	45.25	94.00	30.00	9.00
Horiz 4' X 10'	45°	37.50	94.00	30.00	9.00
Horiz 4' X 10'	60°	27.75	94.00	30.00	9.00
Horiz 4' X 10'	75°	14.75	94.00	30.00	9.00

Table 2.

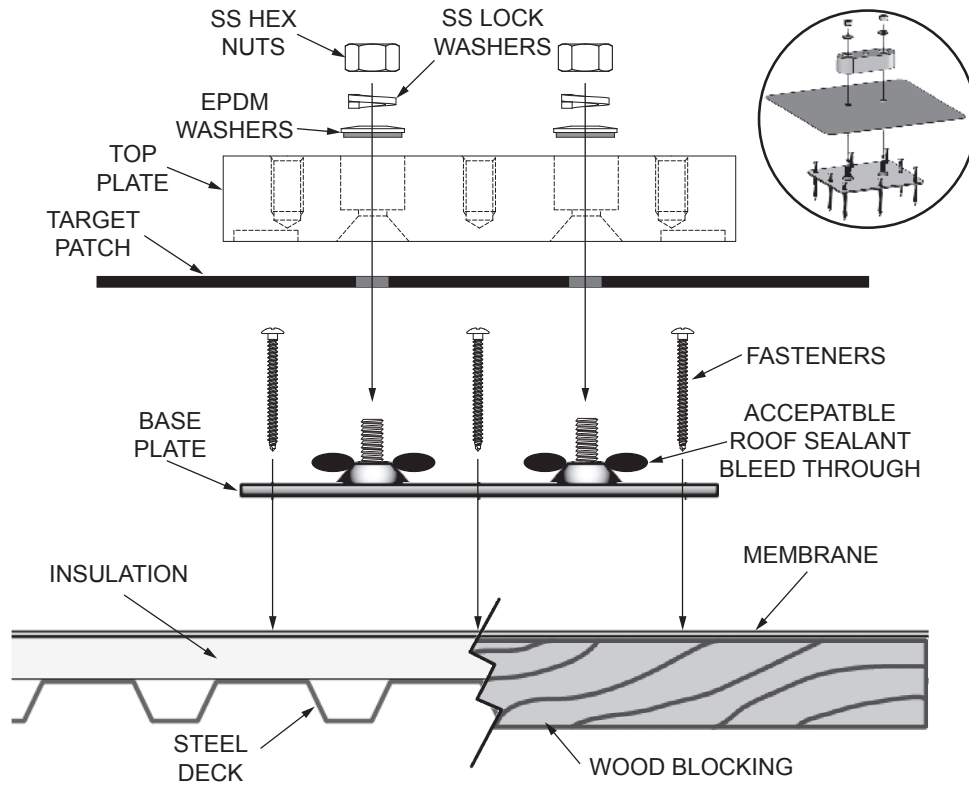


Figure 5.

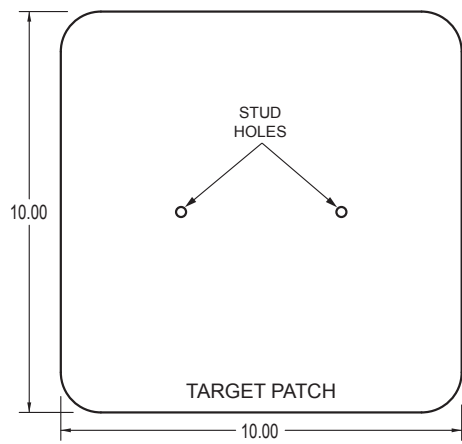


Figure 6.

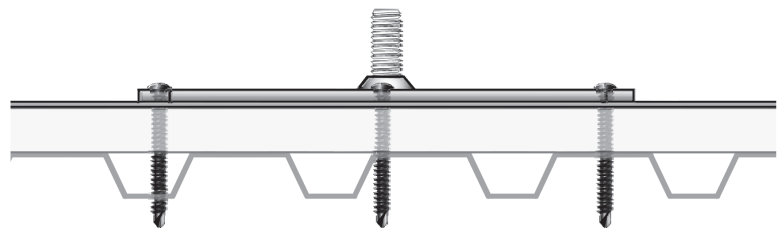


Figure 7.

ATTACHING COLLECTOR TO MOUNTING BRACKETS

Once all of the mounting brackets have been secured to the roof the solar collector(s) can be installed. See Figure 8 for these instructions.

1. Insert the stainless steel channel nut w/spring inside of the mounting strut.
2. Fasten the solar collector mounting clip to the channel nut with the stainless steel bolt, lock-washer, and flat washer as shown. Do not tighten. Repeat step for the other mounting bracket locations.
3. The solar collector can now be set on the mounting struts. To aid in handling the collectors on the roof the mounting clips may be tightened to the lower mounting brackets prior to raising the collectors. The collector can then be set on the lower mounting brackets while the top clips are fastened over the lip on the collector frame.
4. After the solar collector is in position, locate the upper mounting clip so that its lip over-hangs the lip of the solar collector frame as shown. Tighten the mounting clip to the solar collector frame securely. Repeat for the other upper mounting clips.
5. Once the upper mounting clips are secured, the bottom mounting clips can be loosened and retightened over the collector lip as directed in step 4.
6. Repeat steps as needed for other solar collectors.

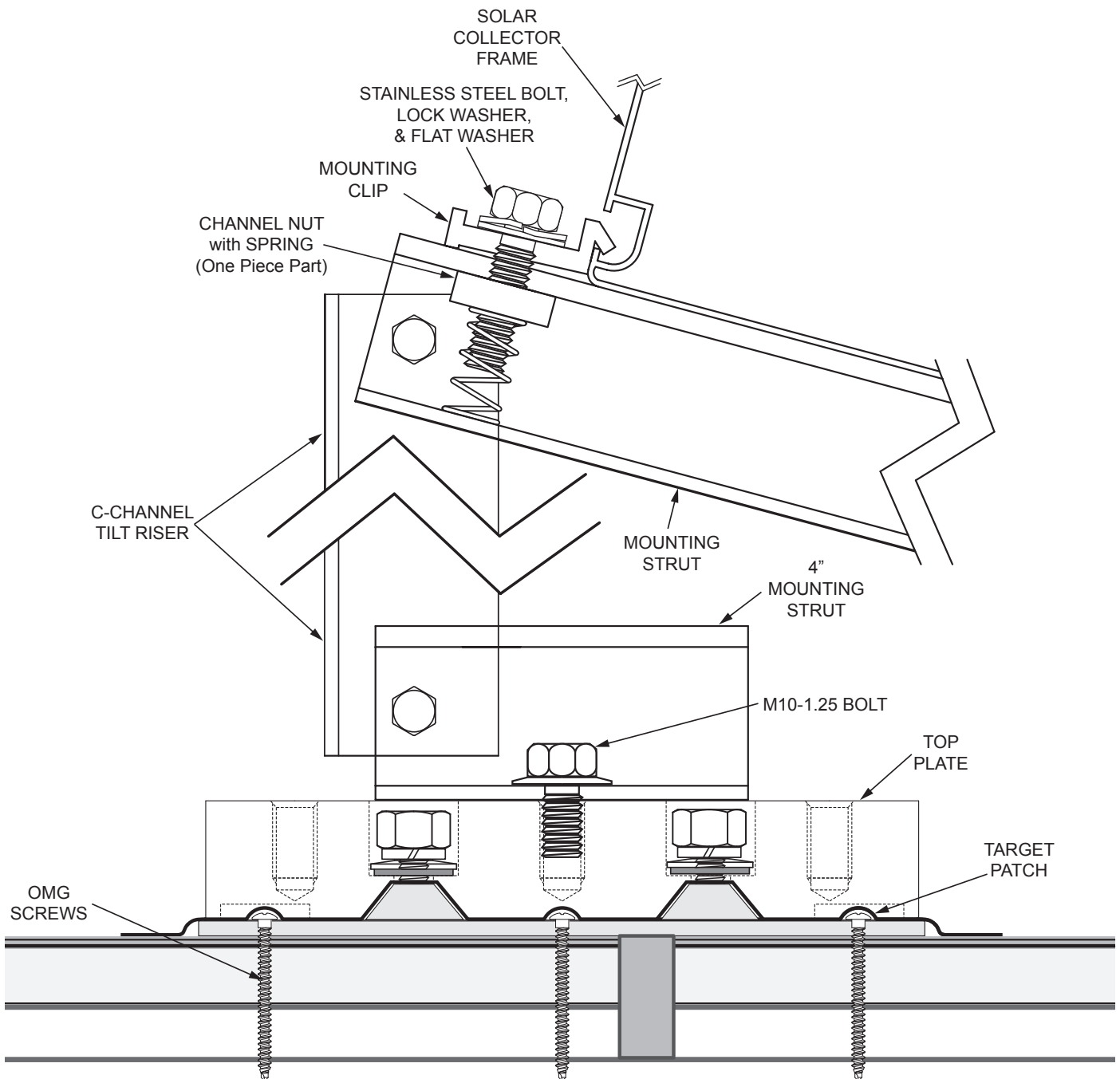


Figure 8.