

### APPLICATION:

The FastJack attachment can be used on virtually any roof requiring a flashed installation. The FastJack is available in four sizes:

FJ-300-18	3"	Comp roof w/Oatey® flashing
FJ-450-18	4-1/2"	Comp roof w/standard flashing
FJ-600-18	6"	Flat concrete tile/built-up
FJ-750-18	7-1/2"	S-Curve concrete tile/built-up



### WARNING

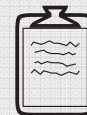
All Professional Solar Products (ProSolar) are engineered and tested to withstand stated specifications (as stated on published specification sheets) when installed properly. Failure to install properly may decrease the performance of installation.



### SAFETY

All regional safety requirements should be followed when installing Professional Solar Products. All tools and equipment located on the roof should be secured to avoid falling object hazards. All equipment/tools should be properly maintained and inspected prior to use. Any exposed studs should be protectively capped to help avoid injury. This installation manual is intended for use by professional installers with a working knowledge of construction principles.

### Symbol Legend



Explanation or Install Tip



Important Product Performance Information



Critical for Safety

### Tool List

- Chalk line
- Cordless drill with 3/8" carbide masonry drill bit (for breaking through comp shingle surface only, not pilot hole)
- Cordless drill with long 3/16" drill bit (for pilot hole)
- Cordless impact wrench with 1/2" socket
- Lumber crayon
- Precision stud sensor (recommended Zircon® I520)
- Flashing Template (standard flashing template #TEMP-STD; Oatey® flashing template #TEMP-OAT)
- Adjustable pliers (1-1/2" minimum jaw capacity)
- Utility knife with hook blade
- Dead blow hammer (approx. 21 oz.)

## Installation steps overview

- 1) System layout & chalk line marking
- 2) Locating roof rafters along chalk lines
- 3) Sealing/attaching FastJack®
- 4) Clean up/Quality Inspection

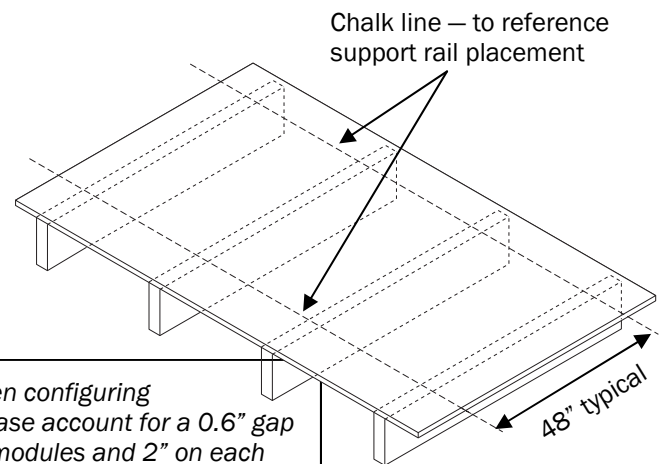
## Step 1: System layout & chalk line marking

Prior to beginning attachment work, the system roof layout should be defined.

A drawing or sketch is recommended prior to roof work.

Upon finalizing layout, use chalk lines to mark support rail locations. The chalk lines will be used to align FastJack® attachment points.

*Note: All support rails should be placed 48" apart along the module length. The rail distance from the end of the module will vary based on module size.*



*Note: When configuring layout please account for a 0.6" gap between modules and 2" on each end of the module array for clamps.*

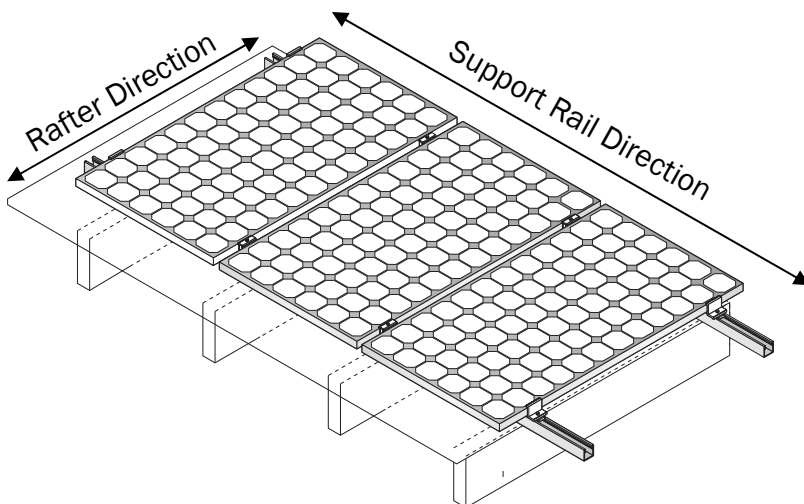


Chalk lines should be placed near the center line of the tile to ensure a proper cut for the roof flashing.

The 48" grid design is based on 12", 16" or 24" on center (o/c) rafter spacing.  
(12" x 4 = 48", 16" x 3 = 48", 24" x 2 = 48")

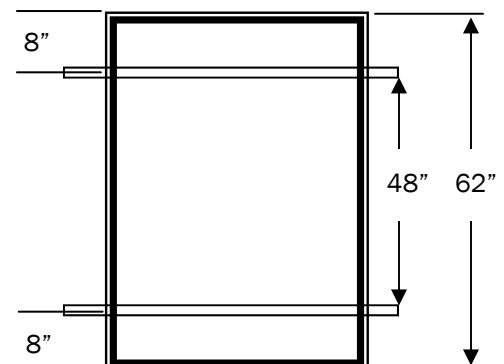
Note: All product specifications are based on 48" paired support rail spacing.

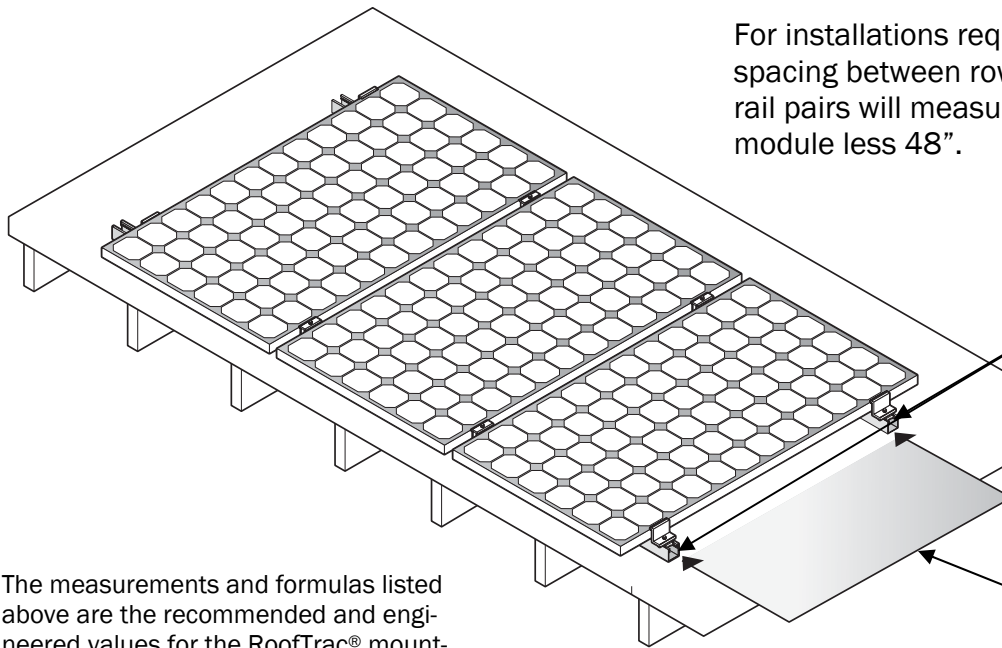
### Proper module/rail orientation—single array sample



Clamps must secure the module on the **long end** of the frame. The span of the two support rails should be 48".

**EXAMPLE:** (Using a 62" long module)





For installations requiring more than one row, with no spacing between rows, the distance between adjacent rail pairs will measure approximately the length of the module less 48”.

*Snap chalk lines along the location of where the support rails will be placed once spacing is calculated and measured.*

The measurements and formulas listed above are the recommended and engineered values for the RoofTrac® mounting system—non-tilt up.

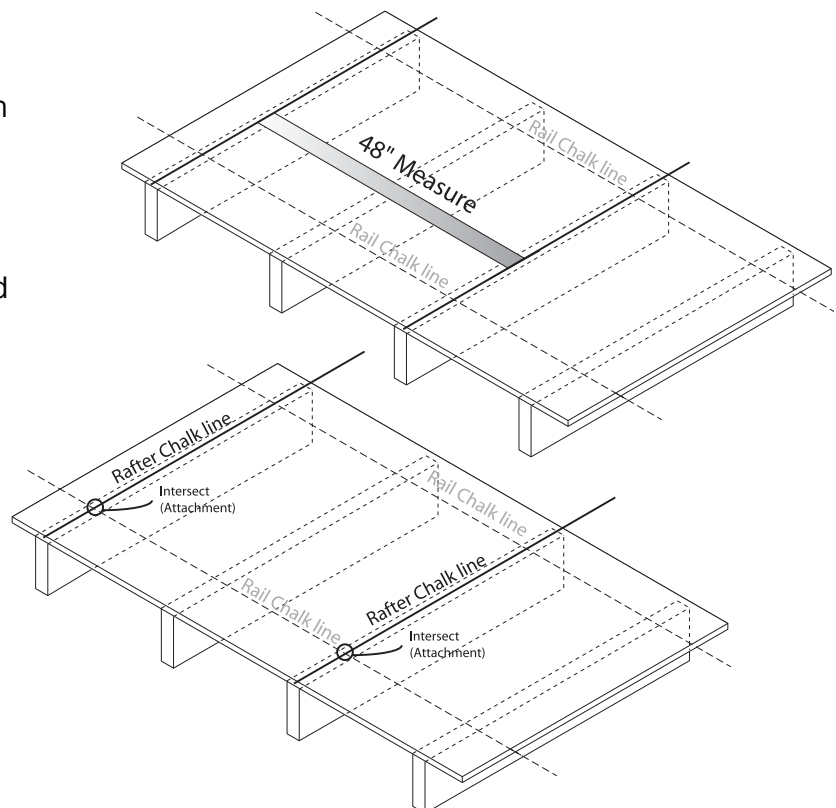
**48”**

Actual spacing will be determined on pattern of the roofing material to ensure a proper seal.

## Step 2: Locating roof rafters along chalk lines

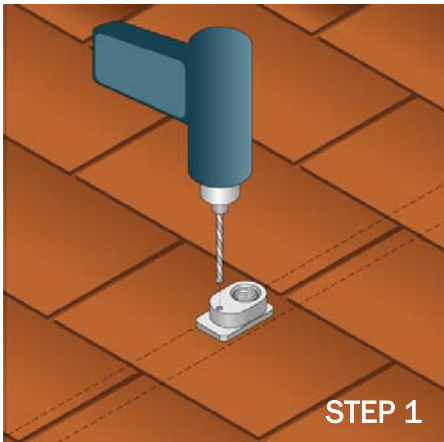
1) Since rafters are normally located every 48” on center (o/c), finding one reference rafter should be sufficient for approximating the location of additional rafters by measuring 48” from the center of the first.

2) If the roof eve (bottom edge of the roof) is exposed, reference the centers of the roof rafter and use a chalk line to mark the rafter location up the roof. Mark the intersection of the chalk lines. This will be your rafter centers.



If the roof has a closed or blind soffit (enclosed rafters not visible at roof edge), the nailing pattern along fascia board (board attached to ends of rafters) may indicate the rafter location at the bottom edge of the roof

## Step 3: Attaching / Sealing FastJack to Composition Shingle



**STEP 1:** Locate rafter center by using precision stud finder or other means. Using a 3/8" masonry bit, break through the comp shingle over the rafter in the center of the shingle. Position FastJack® drill guide over the hole location and drill your pilot hole using a 3/16" drill bit.



**STEP 2:** Insert the 5/16" stainless steel lag bolt and washer through the FastJack® base. Install the lag bolt through the FastJack® using a 1/2" socket and electric impact wrench.



The 1/4" masonry bit is to be used to break through the rough composition tile surface only to avoid premature pilot hole drill bit wear. Do not drill pilot hole with 1/4" masonry drill bit.



**STEP 3:** Using a FastJack® flashing template (optional), and a utility knife with hook blade, cut composition shingle. The template will cut the shingle to the size needed for a standard or Oatey® flashing. (TEMP-STD illustrated)

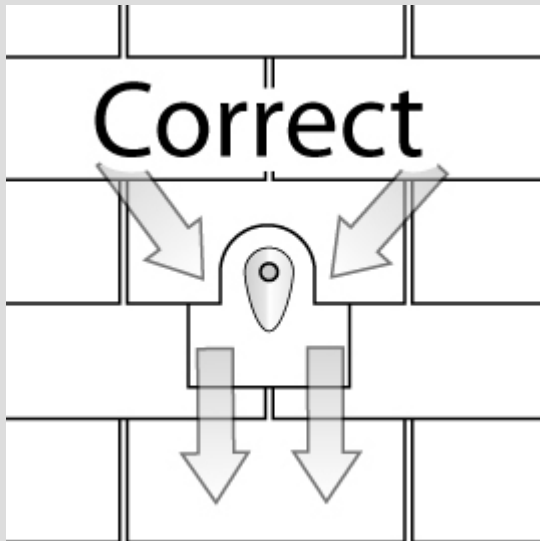


Use the Flashing Template (Oatey® flashing template #TEMP-OAT; standard flashing template #TEMP-STD) to cut in flashings on a composition rooftop to save labor and frustration. The template is an easy tool that enables the installer to quickly and cleanly cut in a flashing with no guessing or struggle.





It is extremely important to properly install a flashing to minimize the risk of roof leaks. Illustrated below are both the correct placement and the incorrect placement of a standard flashing on a composition shingle roof.

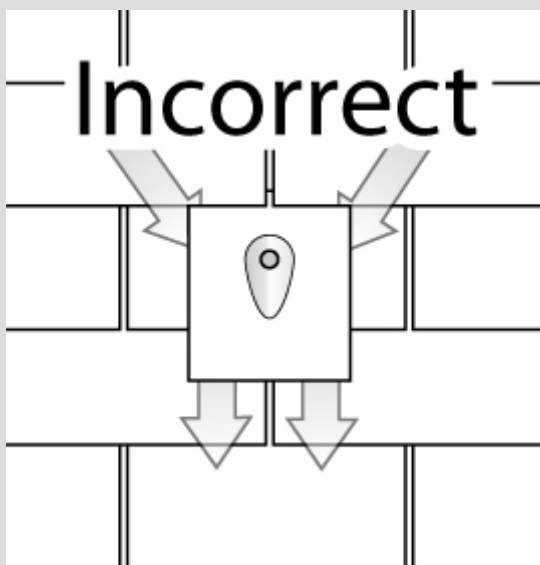


*Arrows illustrate the typical water flow on a pitched roof.*

### **CORRECT:**

Illustration shows proper installation of a cut-in flashing. The lag bolt is located inside the cut-in area of the shingle.

This ensures water will not flow under the flashing where the lag bolt is located. Provides top & side water protection helping to prevent roof-leaks and dry rot.



### **INCORRECT:**

Illustration shows the incorrect installation of a flashing. The flashing is not cut into the shingle and the lag bolt is located where water can flow under the flashing. This type of installation has a high potential to develop a roof leak or dry rot.

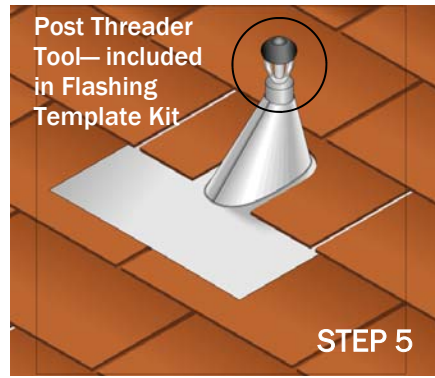
### **PROPERLY FLASHED CONNECTIONS INSURE:**

- *Leak-free roof—less warranty servicing liability due to roof leaks*
- *Prevents roof dry-rot—allows for proper water-shed from the roof without trapping under the flashing.*



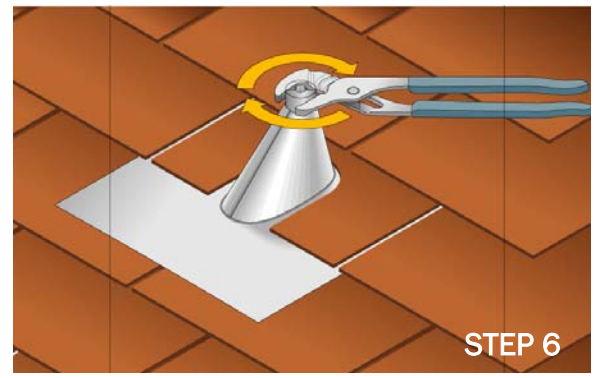
STEP 4

**STEP 4:** Slide flashing over the base and under the upper row of composition shingle.



STEP 5

**STEP 5:** Using the post threader tool (included with the flashing template), thread the post through the flashing into the base.



STEP 6

**STEP 6:** Using the adjustable pipe pliers, tighten post into base by turning clockwise.



STEP 7

**STEP 7:** Seal flashing per the flashing manufacturers' specifications.

**Note: If using Oatey® no caulk flashing sealant will not be necessary.**

## Step 4: Clean up / Quality Inspection

### Clean Up:

Upon completing the attachment installation, account for all tools and clean area as necessary.

### Quality Inspection:

Contractors are recommended to perform a final attachment quality inspection prior to installing the RoofTrac® mounting system to ensure all attachments are properly sealed. It is also recommended to check all attachment spacing to verify all attachment points were positively connected.



Make sure all installation crew members on the roof are mindful of installed roof attachments to prevent tripping. All installation crew members should utilize proper safety equipment when installing a solar system. (Harnesses, hard hats, gloves, proper no-slip footwear, etc.)