

INSTALLATION GUIDE

ROOF PENETRATION KIT

PRODUCT CODE: PIPE FLASH KIT



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1. INTRODUCTION

Thank you for purchasing the Heliodyne Roof Penetration Kit kit. This kit is a pre-assembled set of components consisting of 2-Coolie-cap assemblies with 3/4" copper pipe, a Dyn-O-Seal combo fitting kit, 360°F air vent, a high temperature ball valve kit, 2 pieces of 9" x 11" Wakaflex, and 2 DOS disc seal kits.

The roof penetration kit has two main benefits:

- 1) It will save you valuable time with the piping of your solar water heating system.
- 2) It allows for solar collector installation with **NO ABOVE ROOF SOLDERING.**

This kit supports shingle and other flexible overlapping roof styles. It is not compatible with rack mount assemblies.

As with any Heliodyne product, it is highly recommended that you thoroughly read the installation guide completely before beginning any work. Video tutorials may also be available for Heliodyne equipment installations. Visit Heliodyne's YouTube channel (youtube.com/user/heliodynesolar) for a complete list of tutorials.

2. PRE-INSTALLATION GUIDELINES

Before beginning installtion of your roof penetration kit, make sure:

- The collector array has already been attached to the roof using flush mount hardware
- The roof style is compatable with the roof penetration kit (angled roof with shingle or other overlapping flexible material).

NOTE: Piping must be configured for collector inlet on the bottom left of the panel and collector outlet on the top right.

3. KIT COMPONENTS



1. Coolie Cap 2-piece copper assembly with sensor wire tube (outlet assembly)
2. Coolie Cap 2-piece copper assembly w/o sensor wire tube (inlet assembly)
3. Dyn-O-Seal Combo Fitting Kit
4. 360°F air vent
5. High temperature ball valve kit
6. (2 each) DOS discs, o-rings and nut caps
7. (2) sheets Wakaflex, 9" x 11"

4. INSTALLATION

4-1 Begin the installation process by assembling the Dyn-O-Seal combo fitting kit with the high temperature ball valve and 360°F air vent as shown in the picture. This assembly will be attached to the outlet fitting located on the top right of the solar panel array.



4. INSTALLATION (CONTINUED)

4-2 Attach the Dyn-O-Seal combo fitting assembly to the top right corner of the solar panel array

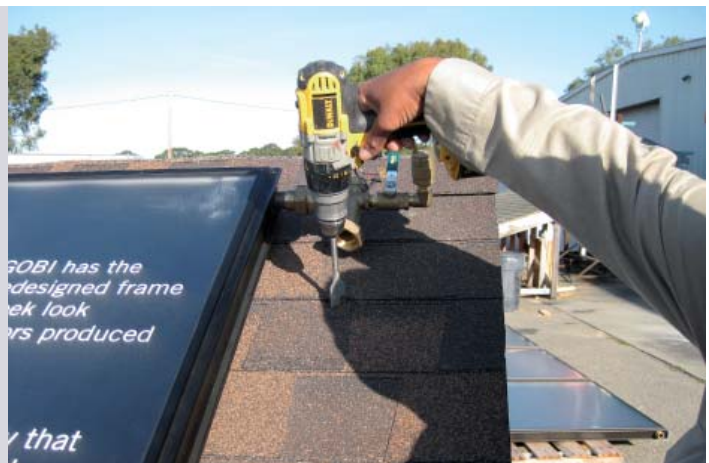
NOTE: The coolie cap assemblies are different for inlet and outlet connections. For this reason, the combo fitting must be connected to the top right corner of the solar panel array.



4-3 With the correct coolie cap outlet assembly (the one with a single bend) loosely connected to the combo fitting, measure and mark the location for the hole to be drilled through the roof.

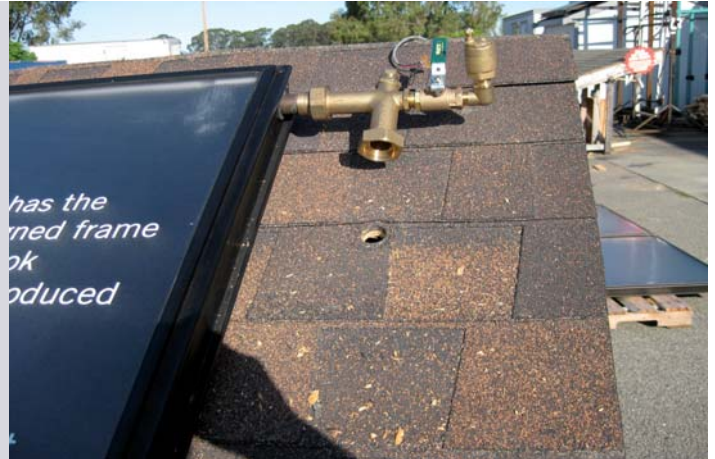


4-4 Using a 1 1/8" drill bit, drill a hole through the roof,. Be careful to make sure the hole is perpendicular to the roof surface.



4. INSTALLATION (CONTINUED)

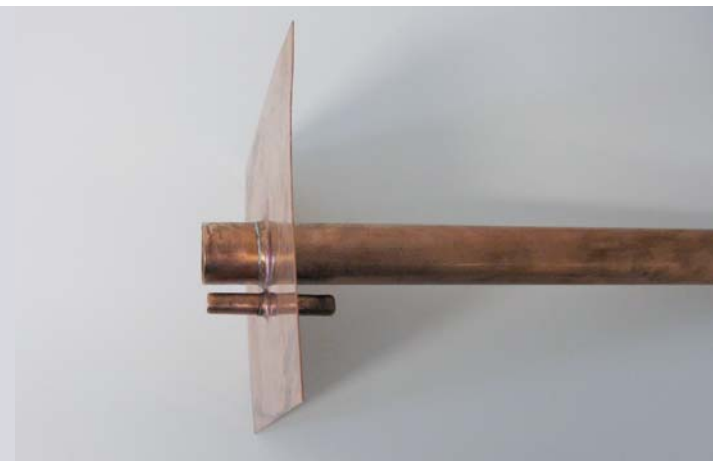
4-5 With the hole drilled, you are now ready to prepare for installation of the outlet coolie cap base.



4-6 Loosen the shingles with a putty knife, as shown, so that you can slip the coolie cap base completely under the shingles.



4-7 Look at both coolie cap bases. One has a second, small tube which is used to feed the temperature sensor wire through the roof into the space beneath. Make sure you have selected the correct coolie cap base before proceeding.



4. INSTALLATION (CONTINUED)

4-8 Confirm that the shingle or shingles have been loosened enough to allow for the entire outlet assembly base to be fitted underneath the shingles.



4-9 Using the hole already drilled in the roof, mark the position of the hole for the smaller (sensor lead wire) tube.

NOTE: This small hole should be to the far side (right) of the larger hole, relative to the collector



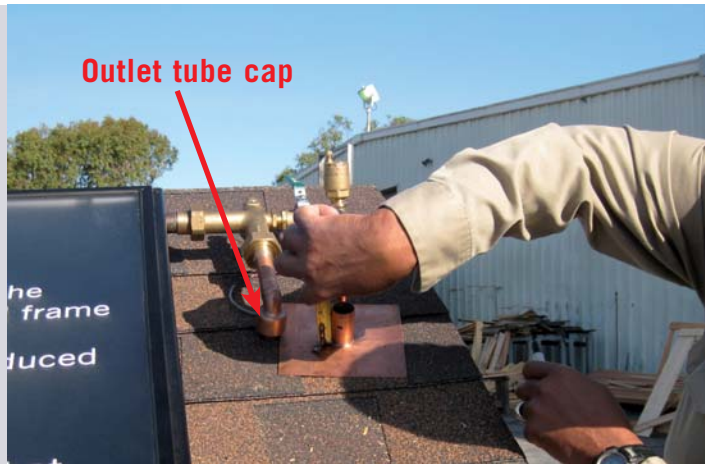
4-10 Using a ½” drill bit, drill the second hole through the roof, once again being careful to make sure the hole is perpendicular to the roof surface.



4. INSTALLATION (CONTINUED)

4-11 With the coolie cap outlet tube loosely connected to the DOS combo fitting assembly on the collector, measure the appropriate height for the solar fluid tube relative to the roof surface as shown in the picture. This height will be determined by the height of the outlet tube cap when positioned over the coolie cap base on the roof. Cut the solar fluid tube on the coolie cap base to the desired height. The smaller tube can be left as is.

NOTE: When measuring this height, the collector fluid outlet piping will be through the roof surface



4-12 Place the coolie cap base, long tube down, into the holes, under the shingle or shingles. Place the Wakaflex material with the 2 holes (one large and one small) over the coolie cap base before peeling away the adhesive covering. Peel away all the covering and make sure a good adhesive seal is formed with the coolie cap base and the underlying shingle or shingles.



4-13 Position the coolie cap assembly exit tube inside the coolie cap base and connect the exit tube to the outlet assembly using the Dyn-O-Seal o-ring and connection. Next, run the temperature sensor wire down the small tube and then seal with a small amount of silicon sealer or similar sealant. This completes the above the roof installation of the outlet coolie cap assembly. For the inlet coolie cap installation, a similar procedure is performed.



4. INSTALLATION (CONTINUED)

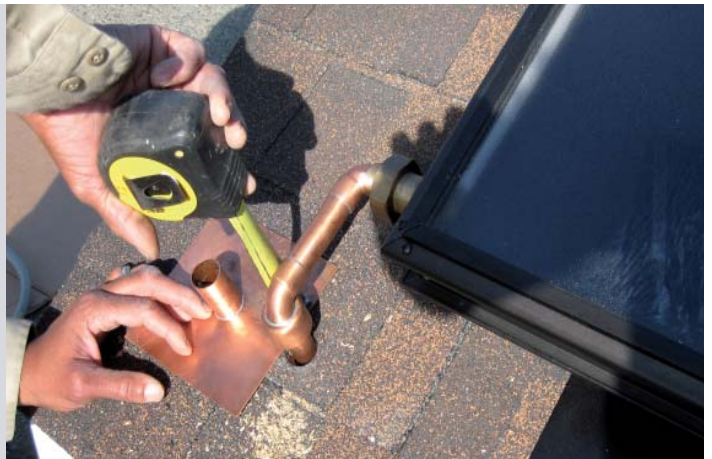
4-14 For the inlet coolie cap installation, begin by using the inlet pipe (2 bends) to measure and mark the location for the hole.



4-15 Using a 1 1/8" drill bit, drill a hole in the roof, being careful to make sure the hole is perpendicular to the roof surface. Using a putty knife, loosen the shingles same as was done for the outlet coolie cap installation.



4-16 As done with the outlet plumbing, measure the appropriate height for the coolie cap base tube relative to the height of the cap on the inlet tube pipe. Cut the coolie cap base tubing (short side) to this height.



4. INSTALLATION (CONTINUED)

4-17 Insert the coolie cap inlet assembly base into the hole, long tube down. Under the shingle or shingles, place the Wakaflex with the single hole over the coolie cap base with the adhesive covering still on. Remove the adhesive covering and make sure a good seal is formed between the coolie cap base and the shingle or shingles.



4-18 Connect the inlet assembly tube to the collector inlet DOS connection on the lower left side of the collector panel. The roof penetration kit is now fully installed. If desired, trim the Wakaflex material to be fully covered by the shingle or shingles.



5. COMPLETION

5-1 With the roof penetration kit fully installed, under the roof line, connect the solar fluid piping to the appropriate coolie cap assembly pipes.



