Volume 1 01/11

Home Owners Manual and Installation Instructions

SOLAR SRCC RATING & CERTIFICATION CORPORATION	This product certified by the Solar Rating and Certification Corporation c/o FSEC, 1679 Clearlake Road Cocoa, Fl 32922 (321)6381597 www.solar rating.org SRCC Document OG-100	Solar Coil, LLC. Clearwater, FL 33764 Model No: SC092809BK Gross Area: .8858m² (9.53) ft² Serial Number:	Clear Day Rating in Category C 6.6 MJ/day 6.2 KBtu/day

DO NOT REMOVE THIS BOOKLET FROM THE HOT WATER HEATER

Passive Solar Hot Water Collector

OWNERS MANUAL

Passive Solar Water Heating

Place this manual on or near the water heater to allow access by the homeowner or access by any professional preparing to work on the water system. Read and review this manual prior to performing maintenance to the water system.

Made in the USA

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Chapter

1

HOME OWNER OPERATION INSTRUCTIONS

Introduction

Your Solar Coil collector is a passive water heating system. The Solar Coil mounted on your roof will absorb the sun's energy and pre-heat the water before entering your conventional water heating system.

***CAUTION*: Solar water heater pipes and water temperatures often exceed 150° Fahrenheit. Touching may cause dangerous and severe burns.**

Adjustments & Normal Maintenance

Solar Coil water heaters are designed to operate without any daily adjustments or maintenance very much like your conventional water heater.
NO ADJUSTMENTS REQUIRED.

Safety Valves

Your Solar Coil is equipped with a safety temperature and pressure relief valve. This valve will release water on the roof if the water temperature and/or pressure reach an un-safe level. Solar water heaters can overheat if hot water is not used for long periods of time. If your home is *not* occupied for a period of 14 days or longer, you should by-pass your solar system. (Activate solar system by-pass mode)

By-Pass Mode

Step:

1.) Close water valves (A) (B) (See Picture on page 4)
2.) Open valve (C)

Installer will explain this in detail at time of installation.
If a leak should occur in your solar hot water system you should (activate solar system by-pass mode.)

By-Pass Mode

Step:

1.) Close water valves (A) (B) (SEE Picture on page 4)
2.) Open valve (C)
3.) Call installer @ (_____) _____

Installer will explain this in detail at time of installation.

Chapter 1

Freeze Warning

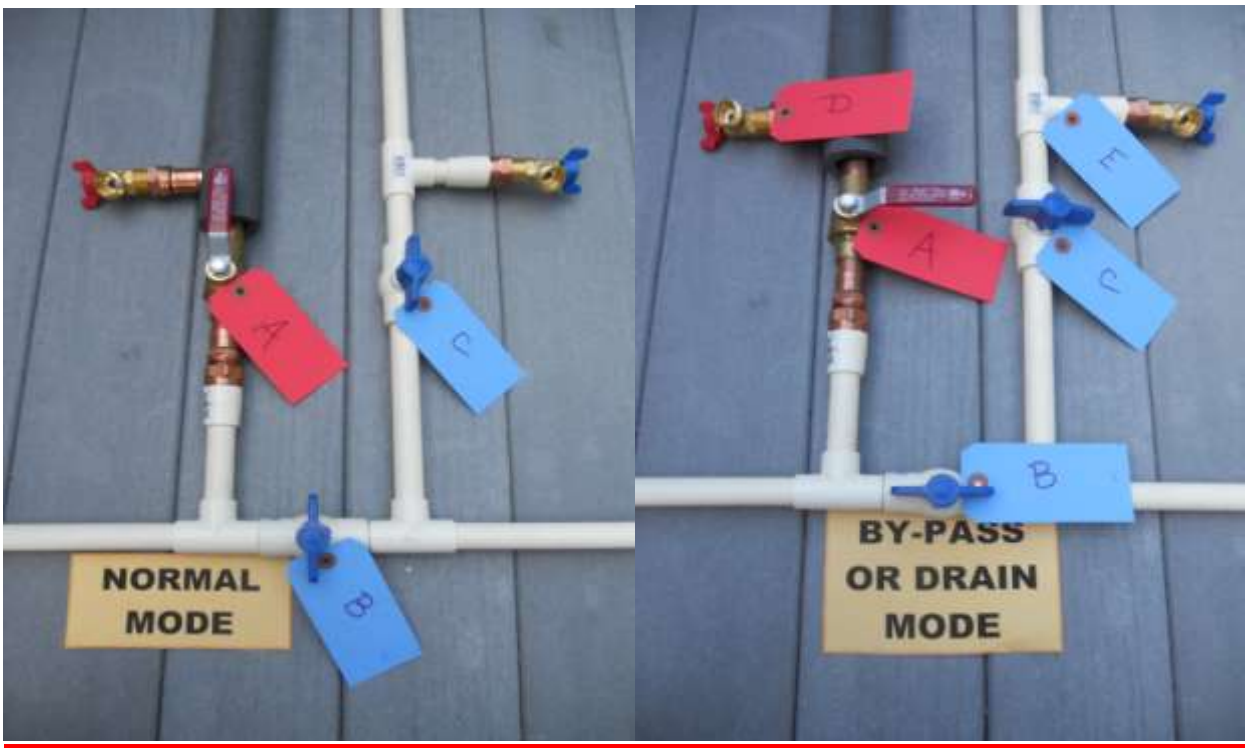
Solar Coil Collectors are equipped with a freeze relief valve that will prevent the water in the pipes and roof mounted collector from freezing for brief periods of time. If the temperature is forecasted to drop below 32° F or 0° C for a period of six hours or more you should drain the solar system. (Activate solar system drain mode)

Step:

1.) Close water valves (A) (B) (See Picture on page 4)
2.) Open valve (C)
3.) Attach at water hose or place a five gallon bucket under both water bibs and Open both to allow water to drain from the pipes and collector.

Installer will explain this in detail at time of installation.

ATTENTION: Do not attempt to bend, cut or alter pipes or the collector without first draining all the water from the solar system. Then allow enough time for the pipes and collector to reach ambient temperatures.



Chapter

1

I have read and understand the Solar Coil water heater instructions. To activate warranty go to WWW.SOLARCOILLLC.COM and register your Solar Coil warranty today and be eligible for an additional $50.00 rebate.

Installation Date _____

X _____

Solar Coil, owner - sign

X _____

Installer - sign

Phone Number: (_____) _____

Copy of invoice attached

CONTINUE TO THINK *"GREEN"* AND THANKS FOR CHOOSING…..
SOLAR COIL, LLC

Chapter

2

Home Owners Manual and Installation Instructions

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Passive Solar Hot Water Collector

PLUMBING INSTALLATION INSTRUCTIONS

IMPORTANT READ THIS FIRST!
The sales engineer has determined and marked with plumbers crayon the proper mounting location on the roof for the SOLAR COIL collector. Do not alter from this location more than 12 inches.

The installer is responsible for compliance to applicable building codes.

THE SOLAR COIL IS TO BE ADDED TO THE EXISTING TANK OR TANKLESS HOT WATER SYSTEM. THE PASSIVE SOLAR ENERGY COLLECTOR MOUNTED ON THE ROOF WILL PREHEAT THE WATER BEFORE IT ENTERS THE EXISTING HOT WATER SYSTEM.

Included in the package: (package parts check list)

- a.) One SOLAR COIL collector
- b.) Two 3/8" X 6" lag bolts (may be use if bolt hole hits truss or rafter)

- c.) Five ¼" X 6" bolts with six flat rubber, flat and lock washers.

- d) Five 9 ½", 1/4" x 20 SNAP TOGGLES.

- e.) One 3/4" brass cold weather freeze relief valve.

- f) One 3/4" brass pressure and temperature relief valve.
- g.) Two 3/4" copper 45º elbows

- g) Two ¾" pipe roof flashing boots

Chapter 2

Supplied by installer licensed plumber: (suggested plumber's check list)
(Copper fittings are at the option of the plumber and local codes)

- 50 feet of 3/4" copper pipe type "L"
- 50 feet of 3/4" CPVC pipe
- Three 3/4" ball valves cooper, full port brass, solder
- Two 3/4" ball valves CPVC, full port brass, slip
- Supply of copper 3/4" 90° copper elbows minimum of (6)
- Supply of copper 3/4" copper tee's minimum of (6)
- Supply of copper 3/4" copper connectors or sleeves (6)
- Supply of CPVC 3/4" 90° elbows minimum of (6)
- Supply of CPVC 3/4" tee's minimum of (6)
- Supply of CPVC 3/4" connectors or sleeves (6)
- Supply (one tube) of roof adhesive cement
- Supply (one roll) 4" wide roll TITE SEAL roof seal tape. (To be used as roof mount bolt hole seals)

Not all the parts are required for every installation.

The Plan

The plan is to re-route the water flow to the existing water heater by forcing the cold ground water first through the SOLAR COIL, then returning the pre-heated water back to the same pipe before entering the existing water heater. (Review diagram chapter 2 page 3)

Chapter

2

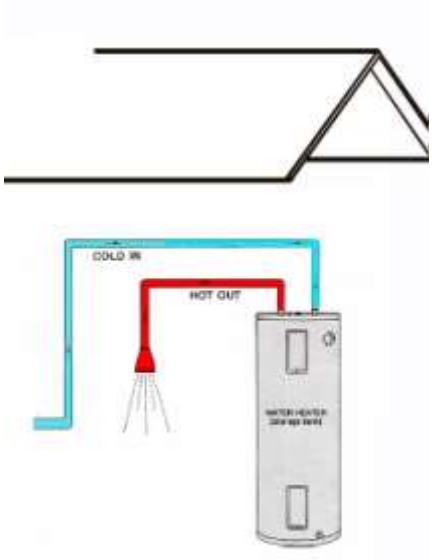
STEP 1 Collector Roof Location

The roof location should be marked with plumber crayon by the sales engineer. Check the roof location and determine the approximate distance (within 20 feet) between the existing water heater and the solar collector location. The location should be on the **south or southwest** slope of the roof. The collector should be away from trees or other objects that may abstract direct sun light from 9 AM – 5 PM. The collector should be located as near the lower edge of the roof as possible for ease of installation. The roof penetration pipe holes and pipe fittings should be located below or on the lower half of the collector of ease of draining, if needed.

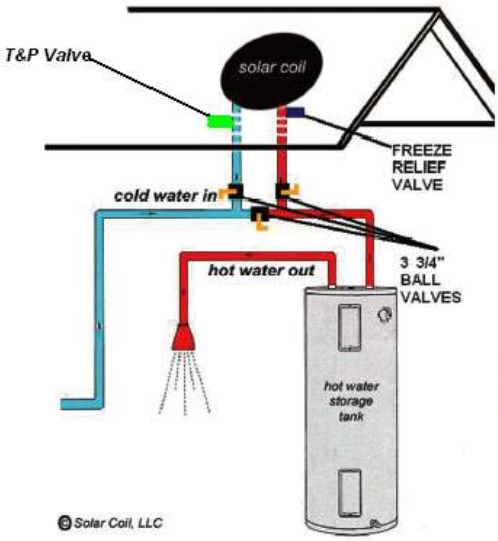
STEP 2 Plumbing Diagrams (Review Diagrams before you start job.)

Plan the installation and review **before** and **after** diagrams.

Typical system before solar



Typical system after solar



Chapter 2

INSTALLATION INSTRUCTIONS

STEP 3 (at ground level)
Solder a ¾" 45º elbows to the two ends of the copper pipe as it extends out of the collector coil housing (marked “H” & “C”)

STEP 4
Prepare fittings and assembly for the freeze relief valve, later to be attached to the 45º elbow at the solar collector pipe marked “H” hot water outflow. **(to be used in step 10)**

STEP 5
Prepare fittings and assembly for the temperature and pressure relief valve, later to be attached to 45º elbow at the solar collector pipe marked “C” cold water intake. **(to be used in step 10)**

STEP 6
Prepare six roof mount sealing gaskets. Cut 6 one foot pieces of roof seal tape, as you fold over remove the white plastic liner and fold into four layers making six 3" X 4" sealing gaskets. Cut a 1 ½” slot in each. Place the folded units back on the white plastic liner to avoid them adhering to other objects. **(to be used in Step 8 and 9)**

STEP 7 (on the roof)

Drill two 7/8" holes in the roof where the collector will be located. Run the ¾" supply line (cold water) and the return line (hot water) from the existing hot water system to the collector location on the roof. Allow extra pipe at each end for final fitting and connection. (Do not connect to supply) See the diagram on page 3.

STEP 8 (place collector on roof)

The collector weights 62 pounds use caution when lifting and moving.

Before placing the collector on the roof place **one** of the six Seal Tite sealing gaskets **(from step 6)** over the hole in the center of the back of the collector.

At the location marked on the roof by the sales engineer.

Place the collector on the roof clear lenses up, install **one** of the two lag screws through the center hole of the collector tighten the lag so that it go through the sealing gasket and into the roofing system to hold it safely in place for the plumbing and toggle installation.

Drill five 5/8" pilot holes through the predrilled holes in the outer edge collector.

STEP 9

Install the 5 SNAP TOGGLE bolts with flat and lock washers. Before you tighten the screws, install the remaining five Seal Tite sealing gaskets **(from step 6)** around each of the five toggle screws using the slot to place the gasket so it seals 360º around the screw. Once the gaskets are in place tighten the center lag screw and five toggle screws tightly, **but do not over tighten.** Make sure the collector is tight to the roof.

STEP 10

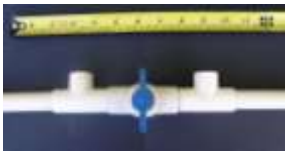
Apply the adhesive cement around the pipes as they enter the roof. Install the pipe boots before connecting the pipes to the collector.

Complete the pipe fitting and connections to the collector with the pre assembled connections. (**Steps 4 and 5)**

Chapter 2

STEP 11 (Turn off water supply)

At the existing hot water tank and complete the pipe fitting by:



1.) Cutting the cold water supply line, remove approximately 12" from the cold water line to the existing hot water heater, (allow enough space for two tees and one ball valve)
2.) Install two ¾" tees open port pointing upward.
3.) Between the two tees, install one full port shut off ball valve (leave in close position)
4.) Install one full port shut off ball valve and one drain hose bib in the water line (cold) to the collector.
5.) Install one full port shut off ball valve and one drain hose bib in the water line (hot) from the collector.
6.) Connect the cold supply line to the line to the collector.
7.) Connect the hot water return line from the collector to the supply side of the water heater of the existing system.
See before & after diagrams (**Chapter 2 page 3)**

STEP 12 (Restore water supply)

Check for secure water connections.

Think GREEN, Save ENERGY
Job's Complete …..

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