



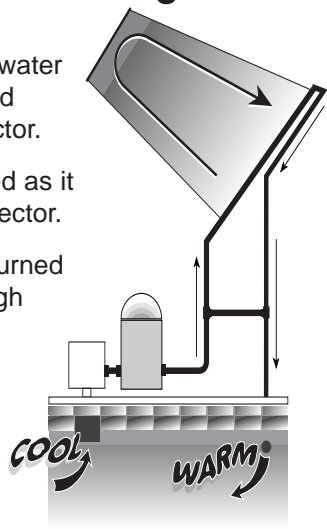
SUNHEATER™

FOR ABOVEGROUND POOLS

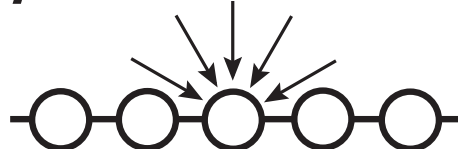
INSTALLATION AND OPERATION MANUAL

How Solar Pool Heating Works

- Using your pool pump, water is automatically pumped through the solar collector.
- The water is then heated as it moves through the collector.
- The heated water is returned back to the pool, through your return lines.
- You enjoy your own heated pool with no fuel costs!



Why SunHeater™ Works Best



Collector Cross Section - Shown Actual Size

- Water is heated as it moves through the many tubes in the solar collectors.
- Tube and web design traps heat, catches light as the sun moves across the sky.
- Tough polypropylene material won't rust, corrode or scale. Plus, the collector is reversible.

PLEASE READ THIS MANUAL CAREFULLY. YOUR ENJOYMENT OF YOUR SOLAR HEATED POOL AND YOUR WARRANTY ARE AFFECTED BY HOW YOUR SOLAR HEATING SYSTEM IS INSTALLED

CAUTION: a) Solar collectors are often installed on the roofs of buildings. Unless you are very familiar with working on roofs and have the proper ladders and safety equipment for such work, you should hire someone with the necessary experience to do the installation. Failure to observe safe practices on a roof or other elevated structure may result in falling, leading to serious injury to you.

b) When installing collectors on the ground, do not build a rack support that could allow children access into the pool.

ORIENTATION

How Well Does Solar Heating Work?

A properly sized and installed system will raise pool temperatures 10-15° during the season. When it's cloudy or rainy, solar won't work as well (and you probably won't be swimming during those times), but your water will be back up to temperature after one or two warm days.

Do I Need A Special Pump?

If your pool pump is in good working condition, there shouldn't be any problem using your existing pump. A one HP pump will handle installations up to 30 feet away from the pool equipment and one story up. If the collectors are cool to the touch when the water is running through them on a warm day, you are getting enough flow.

How Many Collectors Should I Use?

Follow the sizing chart shown on box for best results. If the sizing chart calls for more collectors than you have purchased, the results will not be as effective. For areas where the swimming season can be year round, add an additional collector to heat during the cooler months.

Where Can I Put The Solar Collectors?

Anywhere you get full sun for at least six hours during the day. The longer the collectors are in full sun, the better they work. If you are mounting on an angle (like a roof or rack), the collectors should face in a southerly direction if possible.

What Additional Parts Will I Need To Complete My Installation?

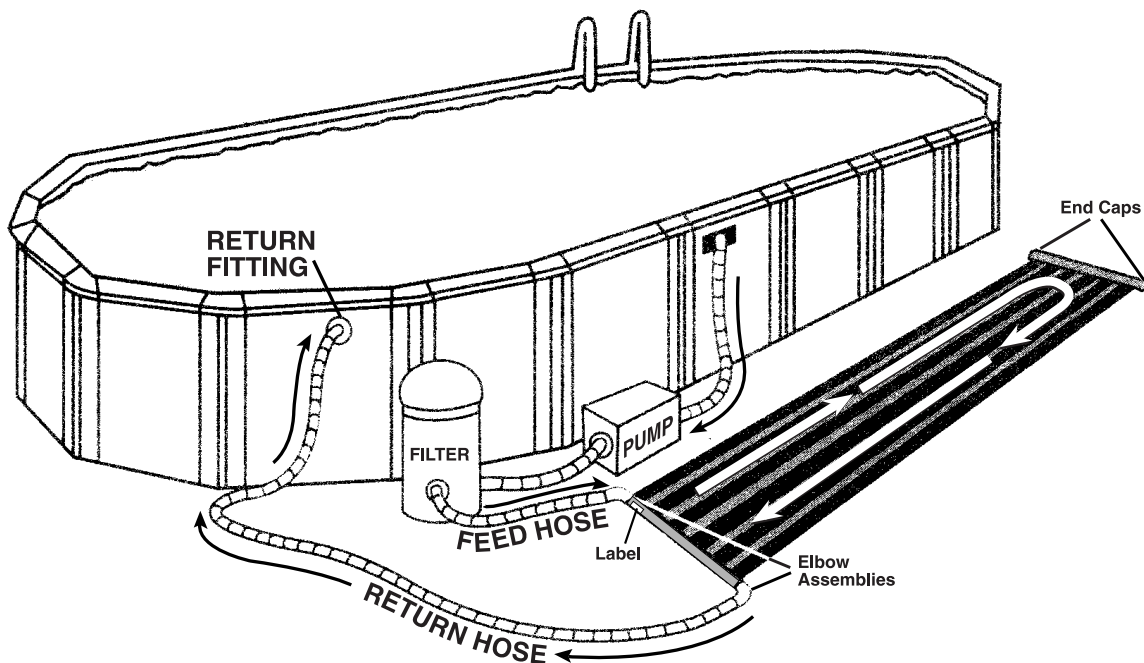
You will need the correct amount of pipe or hose to connect the collectors to your pool equipment. For rooftop installations, we suggest you use rigid schedule 40 PVC pipe. You'll need PVC primer, glue and fittings. Glue and fittings are available where you buy your pipe.

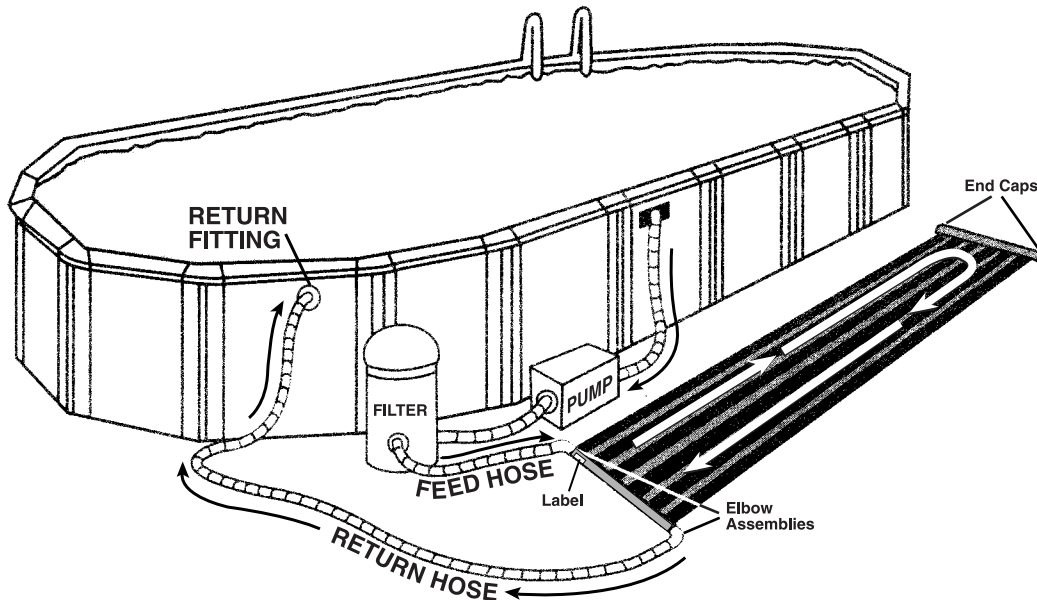
To mount on an angle (roof or rack) use kit #60633.

What About A Solar Blanket?

A solar blanket will hold the heat in the water at night, especially early and late in the season. It is best to remove the blanket on warm sunny days so the solar energy can penetrate deep down into the water rather than be blocked by the opaque blanket material. Remember, your Sunheater will heat the water and a blanket will hold it in, but not heat it effectively.

BASIC SYSTEM LAYOUT





BASIC INSTALLATION OF SUNHEATER SOLAR POOL HEATERS

- REQUIRED:**
- Flathead screwdriver
 - Appropriate length hoses for feeding and returning from the collector

To install your solar heating system, you will require 2 hoses, one that will reach from the pool equipment to the collector and one that reaches from the collector back to the pool.

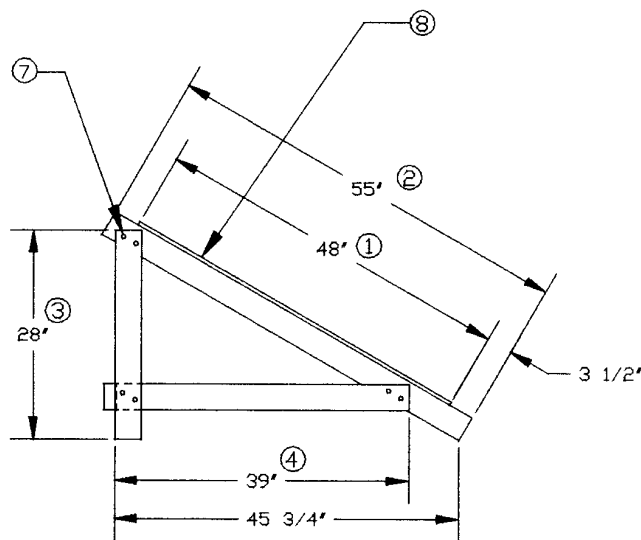
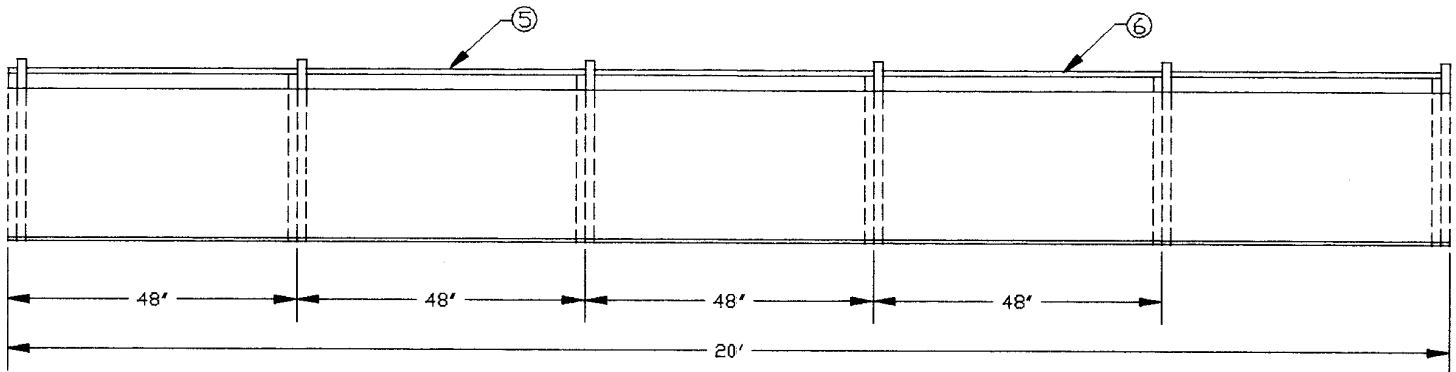
- 1) Provide an area that is free of any sharp objects with full sun at least 6 hours a day.
- 2) Remove strap from collector and allow material to relax in the sun so it lays flat (30 minutes to an hour). Remove and discard the plastic caps covering the threaded ends of the header pipes at both ends of the collector. **DO NOT LAY COLLECTOR ON THE GRASS - IT CAN BURN THE LAWN UNDERNEATH.**
- 3) Carefully thread the end caps onto the ends of the header without the label, using teflon tape provided. (see page 7).
- 4) Carefully thread the elbow adapters onto the openings of THE HEADER WITH THE LABEL using teflon tape (see page 7).
- 5) Turn off pool pump.
- 6) Go to the pool and plug the round return fitting on the pool wall from the inside so that water won't drain through it (a winter plug works well).
- 7) Clamp the end of the feed hose to the elbow adapter closest to the label, and the other end to the filter.
- 8) Clamp the end of the return hose onto the other elbow adapter for return to pool.
- 9) Remove the hose that is clamped to the back of the return fitting.
- 10) Clamp the return hose onto the back of the round return fitting on the outside of the pool wall.
- 11) Remove the plug that you used on the inside of the pool return fitting.

The SunHeater is now ready for startup. See page 8

OPTIONAL RACK MOUNTING INFORMATION

Many poolowners prefer to construct a rack for mounting their collectors on the ground. Your solar collector will heat best if it is insulated against the ground, especially early in the season when the ground is still cold. A platform or even black plastic under the collector will help.

If the collector is to be mounted on a sloped rack, please refer to the drawing below for a suggested design and a bill of materials. A sloped rack should face in a southerly direction, get full sun for most of the day and be constructed so that it does not provide access to the pool for children.



ITEM	QTY	DESCRIPTION
1	3	1/2" PLYWOOD SHEATHING 4' X 8' (EXT)
2	6	2 X 4 CUT TO 55'
3	6	2 X 4 CUT TO 28'
4	6	2 X 4 CUT TO 39'
5	1	2 X 4 12' LONG
6	1	2 X 4 8' LONG
7		ASSEMBLE FRAMES WITH # 8 X 2 1/2" GALVANIZED SCREWS (6 /FRAME MIN)
8		ATTACH EXT. SHEATHING WITH #6 X 1 1/4" GALVANIZED SCREWS (4 ON EACH FRAME

CAUTION:
DO NOT BUILD A RACK SUPORT AGAINST THE SIDE OF THE POOL OR AGAINST A POOL FENCE THAT COULD ALLOW CHILDREN TO CLIMB UP AND OVER INTO THE POOL.

OPTIONAL MOUNTING ON SLOPED SURFACE ROOF • RACK • FENCE



Required: Roof Mounting Kit #60633

- Tools:**
- Silicone Sealant, (GE II or equivalent) if on roof.
 - Phillips Head Screwdriver
 - Hand Drill with 1/8" drill bit

Important: Use only mounting hardware from the manufacturer. Adding or using other hardware will void the warranty.

Remove the collector from the box and allow the material to relax in the sun (30 minutes to an hour). Do not lay the collector on the grass - it can burn the lawn underneath. Allow at least one foot around the solar system for brackets and piping. Roof obstructions like vents should be taken into consideration when laying out collectors. With a roof vent up to 3" in diameter, the collectors can be placed on either side of the vent.

Determine the position of the collector. The top mounting bracket will be located at each slot along the length of the collector. The collector should slope slightly toward the end caps to drain (winterization). Locate the bottom mounting brackets directly below each top bracket (see photos at left).

Drill 1/8" pilot holes for all brackets. Lag screws should be long enough to reach the subroof under the shingles. Inject a generous amount of silicone sealant into the holes and onto the surrounding roof surface. Mount the bracket to the roof as shown with the bracket centered in the slot. Inject additional silicone over screw head area.



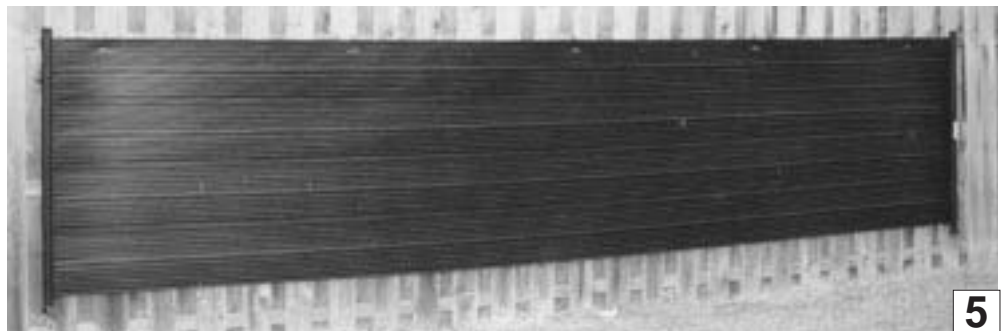
HIGH WIND AREAS: Additional high wind hold down kit is available for installations that may be subject to high winds. Not included - see back page under "OPTIONS" for product number.

ROOF INSTALLATIONS: It is suggested that you use rigid PVC pipe for roof installations.

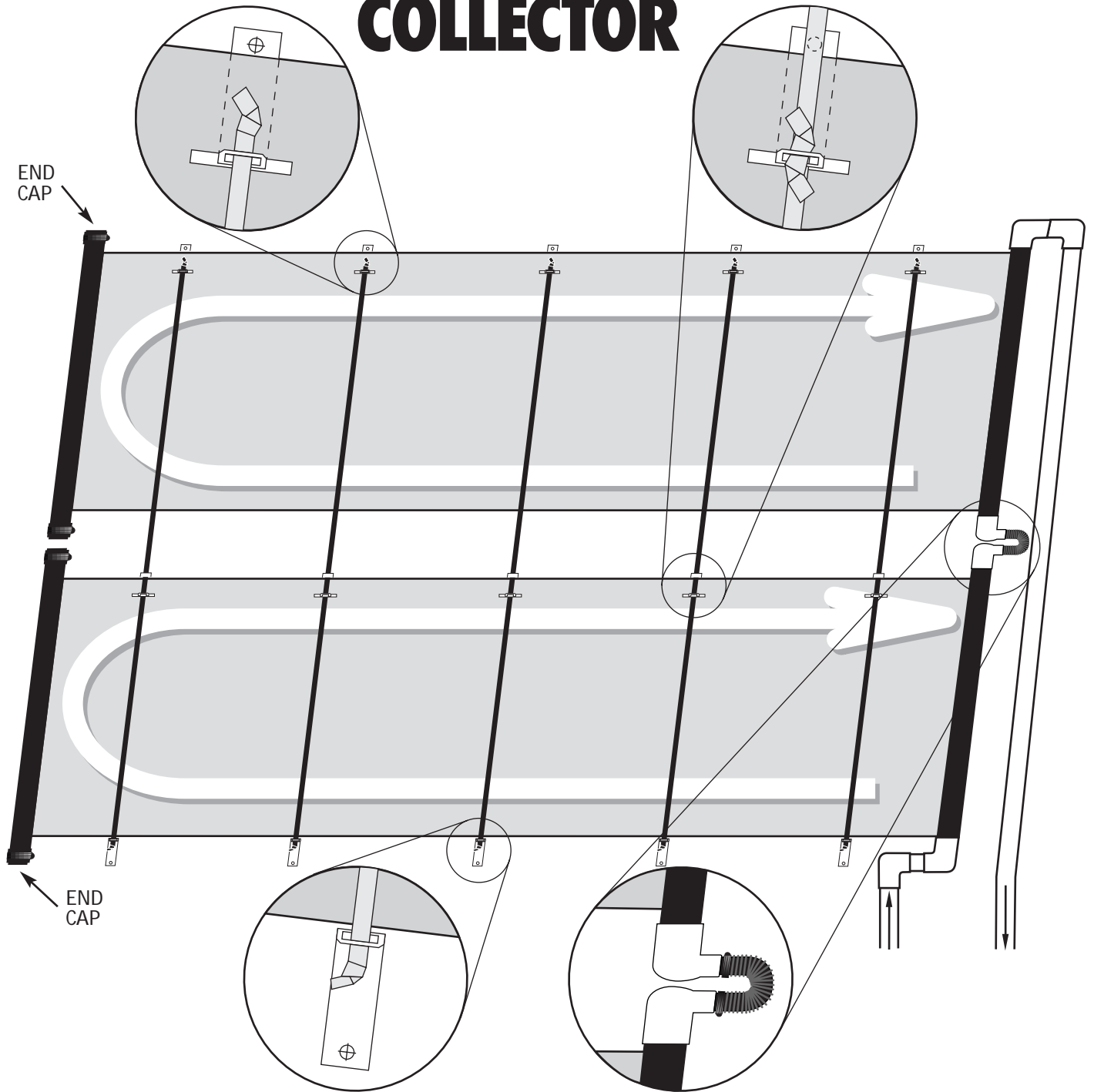
Strap is provided in the proper lengths to span the collectors vertically. Start by tying the strap to the top of the bracket and run the strap to the bracket below it and tie to the bottom bracket. Do not add additional mounting hardware - the collector must "float" on the brackets to expand and contract.



Fence mounting installations are an option if space is a problem. The collector may not heat as effectively when mounted vertically, especially early in the year, when the sun is right overhead, but will still heat your pool.

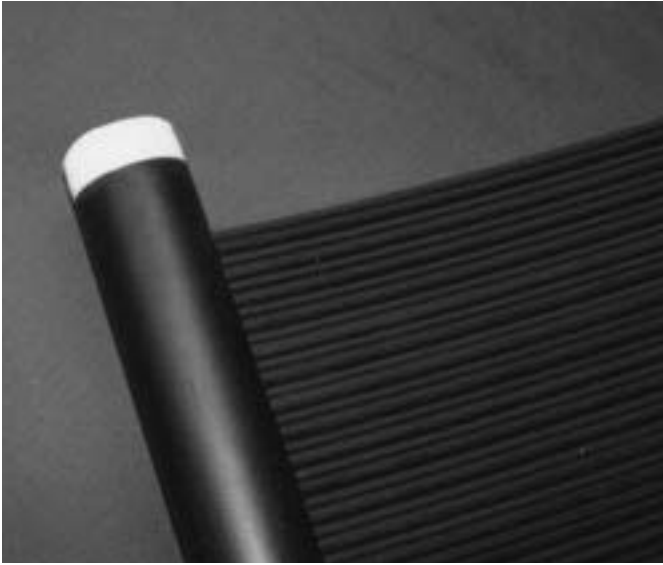


INSTALLATION OF MORE THAN ONE COLLECTOR



- Slots are provided in each solar collector for mounting with brackets as shown.
- Maximum of two 4'x20' collectors may be plumbed in series, or three 2'x20' collectors.
- Pitch the collectors slightly toward the end caps for winterizing and draining (1"-2").
- Do not use mounting hardware other than what is available from the manufacturer. Your warranty is void if other hardware is used.

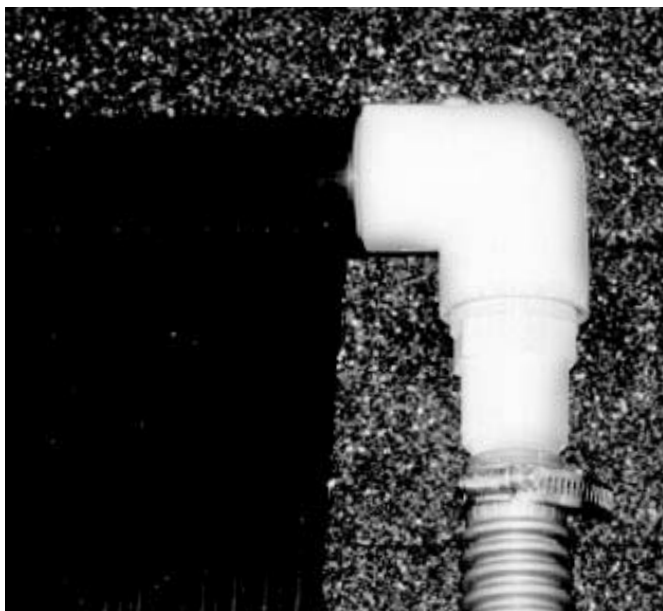
CONNECT HOSE OR PIPE



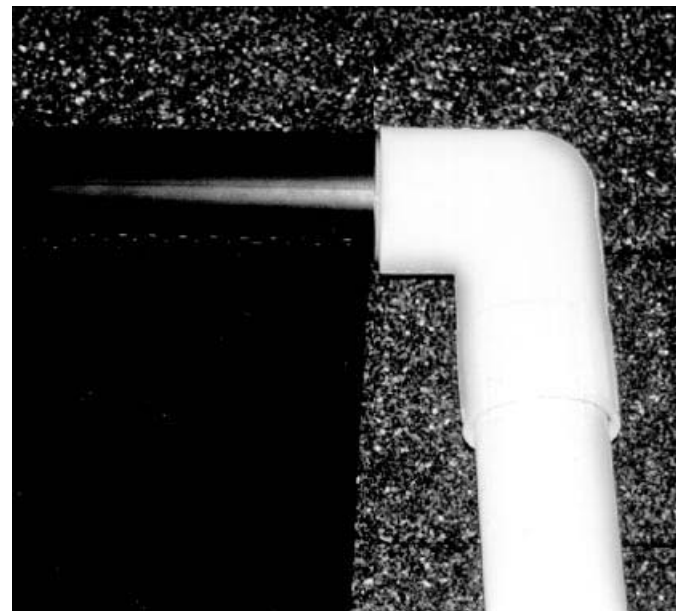
Wrap all threaded ends of the headers and fittings with teflon tape provided for a watertight seal.



Thread the elbow adapters onto the header with the label.



Clamp flexible hose to the adapter. The adapter will take 1 1/4 inch or 1 1/2 inch hose.



For rigid PVC pipe, replace the elbow adapters with 1 1/2 inch elbow (female thread X socket) to glue pipe. The elbows are available where you buy your 1 1/2 inch PVC pipe.

OPERATION & MAINTENANCE

Startup

REVIEW PAGE 3 FOR CONNECTING THE SYSTEM TO THE EQUIPMENT AND POOL PROPERLY.

- 1) Check all your connections to be sure they are tight.
- 2) If you are using a manual diverter system, turn the valve to send water through the solar system.
- 3) Turn on the pump, check for leaks and tighten any connections that need attention.
- 4) You will see air bubbles being pushed into your pool as the solar system is purged of air. This should stop after a few minutes.

Operation

- 1) The collector should feel cool to the touch when water is passing through. This means that the heat is being transferred to the water.
- 2) The water returning to your pool will be a few degrees (3-5 degrees) warmer than the pool itself. This is the most efficient way to heat a large body of water like a pool. Keep turning the water over and add a few degrees each pass.
- 3) Only circulate your water through the solar collector during the daylight hours on warm days. If you circulate your water through it at night or on chilly days, you will cool your pool water.

Winterization

The solar system must be drained for winterization. Freeze damage is not covered under your warranty! You must drain your collectors just like you drain the rest of your pool equipment. Remove an end cap to be sure all the water is drained out of the system, including any low points (sagging) in the collectors. You can leave the collectors in place as long as they are completely drained. We recommend draining the collector completely, rolling it up and storing in a heated (nonfreezing) area.

SunHeater Aboveground Heating System

Qty	Description
1	Quality Polypropylene Collector
2	Threaded Elbow Adapters
2	End Caps
2	1 1/4" Stainless Steel Clamps
1	Roll of Teflon Tape
1	Installation Manual

Options

Item#	Description
60633	Roof/Rack Mounting Kit (ask your dealer)
60636	High Wind Mounting Kit
60635	Manual Diverter Valve (ask your dealer)
18023	Connector Kit (ask your dealer)

Collector Repair

IF THE COLLECTOR DEVELOPS A LEAK

Your SunHeater is guaranteed against defects in materials and workmanship. If a leak develops for any other reason, you may use the repair method shown below:

SOLAR COLLECTOR REPAIR

This method allows for an easy and permanent, on-site repair of a collector by isolating the leaking riser tube. Referring to the figure below, locate the tube to be isolated. (End tube has been shown for clarity) Using a sharp utility knife, very carefully cut away approximately 1" of the tube at both headers. Drive a #10 sheet metal screw, preferably stainless, into the hole in the header. The screw must be between 1/2" and 3/4" long. **DO NOT OVERTIGHTEN!** If the screw strips out, or if the repair leaks, use a #12 screw. This repair method will not void the collector warranty.

Enjoy your solar heated pool for many years to come. With proper care & winterization, SunHeater collectors will last more than ten years.

