



# Owner's Manual

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Solar-Breeze Robotic Pool Cleaner



## Solar-Breeze Robotic Pool Cleaner Owner's Guide

### **Safety Precautions:**

- The Solar-Breeze pool skimmer may look like a pool toy to some children and may lure children into the swimming pool when no one is looking. ALWAYS WATCH CHILDREN AROUND WATER. NEVER leave children in the pool or around the pool without supervision.
- Do not swim or dive while the Solar-Breeze pool skimmer is on the pool surface. The unit must be removed from the water during swimming. Leaving the Solar-Breeze in the pool while people are swimming presents a potential safety hazard to swimmers. It can also cause the apparatus to become swamped or water-logged, causing damage and **voiding the warranty.**

### Solar-Breeze Operation



#### **1. General Description and Operation**

The Solar-Breeze is an intelligent, autonomous robot that navigates the surface of a swimming pool to collect leaves, debris, dust and pollens that float on the surface of the water. It is powered by solar energy and by a rechargeable Lithium Ion battery. It requires no hoses or cords to operate.

### Power and Charging

The Solar-Breeze is powered by direct sunlight. While operating in the sunlight, it will also store surplus solar power in the rechargeable battery. On a normal sunny summer day, enough power will be stored in the battery during the daytime to allow the Solar-Breeze to continue to operate for several hours after the pool is no longer in direct sunlight.

When the battery reaches a pre-determined low-voltage level, the unit will shut itself down automatically. When this happens, the red "Alarm" light will begin to flash. There is no need to remove the unit from the pool when this happens. It will float in the pool for the balance of the night with LED lights flashing. In the morning, when there is direct sunlight on the pool again, the unit will re-start automatically.

### Propulsion and Debris Collection

The Solar-Breeze is propelled through the water by the paddlewheel located at the rear of the unit (where the label is located). The paddlewheel at the front of the Solar-Breeze captures debris in the collection area inside the apparatus. As water passes through the collection area, it passes through the filter mesh which removes small particles, pollens and even suntan oils that may be floating on the pool surface.

### Navigation

The bumper wheels at the front of the unit rotate in opposite directions towards the outside of the unit. When the Solar-Breeze encounters the edge of a pool, or pool corner, the bumper wheels will cause the Solar-Breeze to turn in one direction or the other and continue to move around the pool capturing debris.

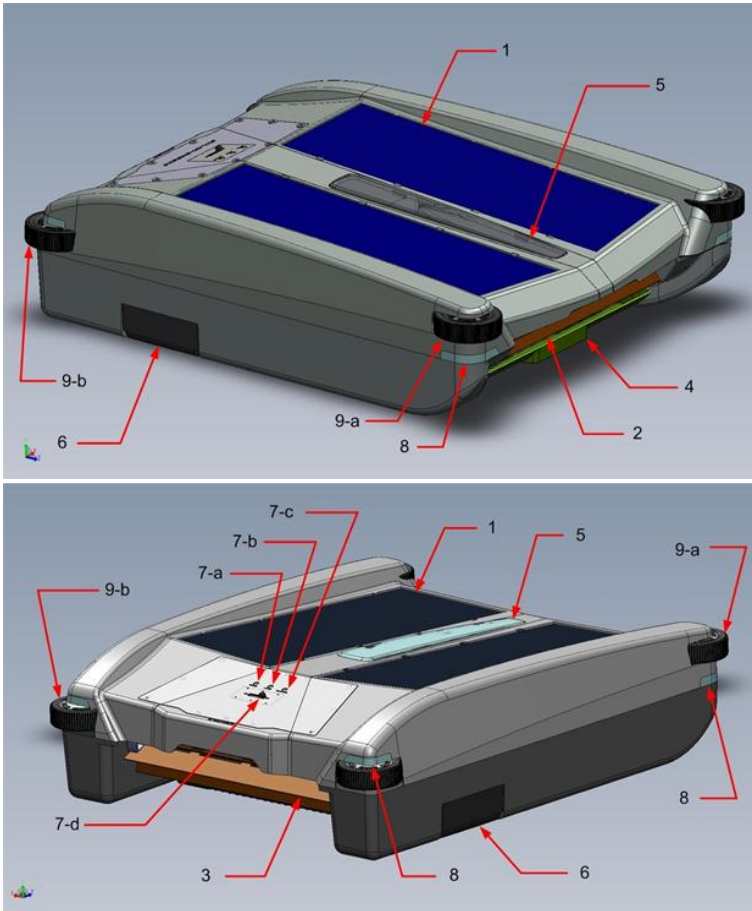
If the Solar-Breeze encounters an obstruction in the pool where the front bumper wheels are not in contact with the edge of the pool and cannot aid with navigation, it will sense that it is stuck on an obstacle and go into a reverse navigation. While in reverse, the rear paddlewheel will rotate in reverse at twice its normal speed in order to back away from the obstruction. The front paddlewheel will continue to rotate forward, but at only half its normal speed. This helps to ensure that no debris escapes from the collection area while the unit is moving backwards.

### Emptying the Debris Collection Area

The clear window provided on the top of the Solar-Breeze makes it possible to see when the debris collection area is becoming full. Simply turn the switch to the "OFF" position, lift the Solar-Breeze from the pool using the front handle, remove the debris tray and

empty the tray and collection area into a trash receptacle. We also recommend that you remove the white plastic screen and wash off the filter mesh when you empty the tray.

## 2. Components of the Solar-Breeze



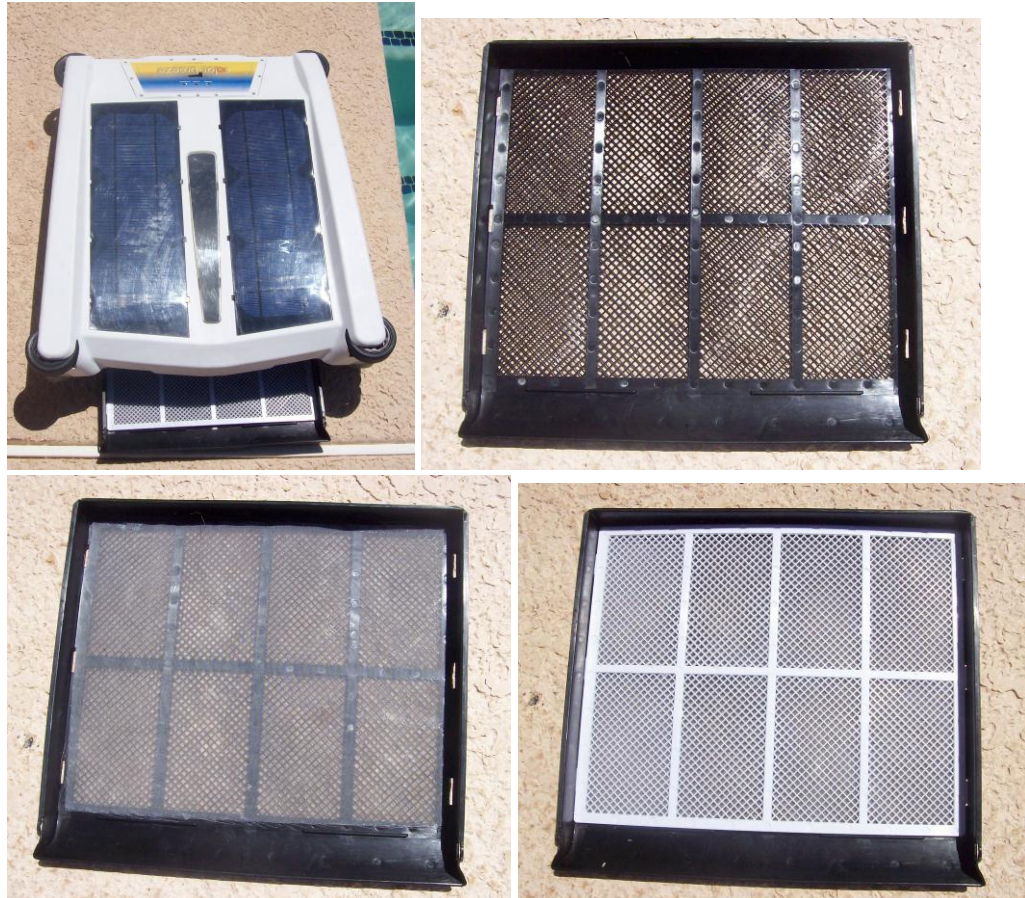
- 1. Solar Panels
- 2. Front Paddlewheel
- 3. Rear Paddlewheel
- 4. Filter Basket
- 5. View Lens
- 6. Chemical Dispenser
  - a. Two (2) 3" chlorine tablets
- 7. Control Panel
  - a. POWER Indicator LED (green)
  - b. ALARM Indicator LED (red)
  - c. BATTERY Indicator LED (green)
  - d. ON/OFF Switch
- 8. Navigation Lights (4)
- 9. Bumper Wheels
  - a. Two Front Bumper Wheels (powered)
  - b. Two Rear Bumper Wheels (idlers)

### 3. Inspection Before Operation

Before Operating the Solar-Breeze, be sure to inspect the following areas of the unit:

a. Debris Collection Tray

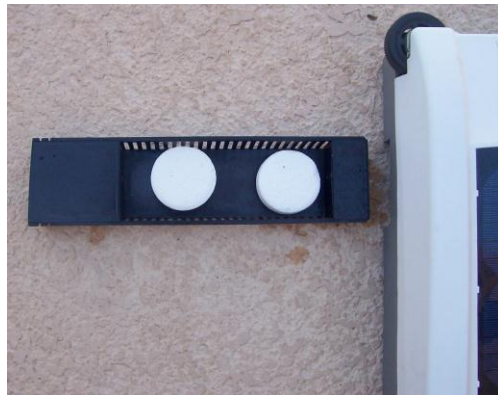
The debris collection tray slides out the front of the unit, using the grip area provided on the underside of the tray. Before operation, remove this tray, remove the white plastic screen inside the tray and ensure that the filter mesh is properly positioned in the tray. Replace the white plastic screen to hold the filter mesh in place, and slide the debris collection tray back into the Solar-Breeze, using the slots provided.



b. Chlorine Dispenser

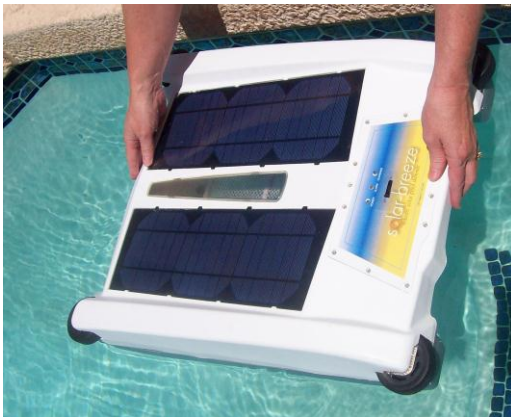
Slide the chlorine dispenser out the side of the Solar-Breeze. Ensure that it slides in and out freely. The chlorine dispenser is designed to accommodate up to two (2) 3" jumbo chlorine tablets in the tray. You may wish to add these to the Solar-Breeze before you place the unit in your pool. With chlorine tablets in the dispenser, the Solar-Breeze will sanitize your pool while it is removing debris from the surface. FOR BEST OPERATION, DO NOT PLACE MORE THAN TWO (2) JUMBO CHLORINE TABLETS IN THE CHLORINE DISPENSER..





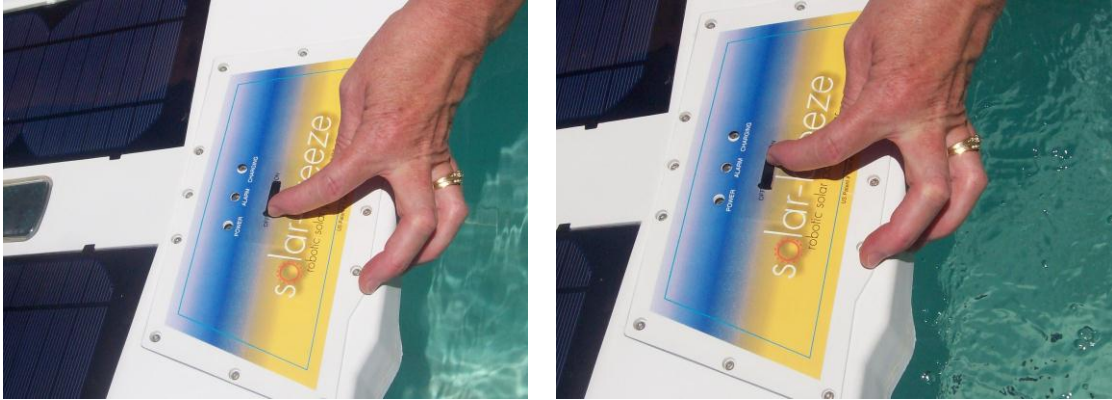
#### 4. Placing the Solar-Breeze in the Pool

The Solar-Breeze comes equipped with two molded handles, one at the front and one at the rear of the unit. We recommend that you use both handles, when placing the unit in the pool, holding the unit at both the front and the rear and lowering the unit gently into the pool so that the white plastic screen and filter mesh are not disturbed inside the debris tray.



## 5. The On/Off Switch

After placing the Solar-Breeze in the pool, slide the switch to the "ON" position. The front and rear paddlewheels should rotate in the forward direction and the apparatus should begin moving around the pool collecting debris in the collection area.



## 6. Operating Modes

After the switch has been placed in the "ON" position, the unit will operate in the following modes:

### a. Standard Forward Operation

The rear paddlewheel and front paddlewheel both rotate in a forward direction with the rear paddlewheel providing propulsion and the front paddlewheel scooping debris into the collection tray. The front bumper wheels should rotate in opposite directions towards the outside of the unit to assist with navigation and push the unit in one direction or the other when it encounters the pool edge.

### b. Reverse Navigation

If the Solar-Breeze gets stuck on an obstruction where the front bumper wheels cannot assist with navigation, or on smooth tile that the bumper wheels cannot grip, it should go into a reverse navigation mode and back away from the obstacle. The reverse navigation will normally be triggered within the first minute of becoming stuck, but it could take longer depending on the nature of the obstruction. Be patient – it will reverse.

During a reverse navigation, the rear paddlewheel will turn in reverse at twice the normal speed in order to back away from the obstruction. The front paddlewheel will continue to turn forward at  $\frac{1}{2}$  the normal speed to ensure that no debris escapes from the collection area.

A normal reverse navigation should result in the unit moving backwards by 3 or 4 feet and turning slightly in one direction or the other. As a result, when the Solar-Breeze begins to move forward again, it should move in a different direction from the obstruction.

The Solar-Breeze will also reverse automatically every four minutes, even if it does not encounter an obstruction. It will normally move in a different direction after each reverse, improving its overall coverage of the pool.

c. Stand-By or Sleep Mode

This mode occurs when the battery charge has been drawn down to the Low-Voltage level. This will normally occur in the evening after the pool has been in shade for some time, however, it could also occur on a cloudy day when the energy available from the sun is low. In this mode, the paddlewheels will stop turning, and the red "ALARM" light will flash – indicating a low battery.

When solar energy becomes available, again, the unit will recharge itself and start operation again on its own, and the red ALARM light will no longer flash.

## 7. Indicator Lights



a. Power Light

The green "Power" light will flash whenever the switch is in the "On" position.

b. Charging Light



i. Charging Mode

The green "Charge" light will flash whenever the battery is below the Full Charge level and when there is sufficient solar power available to charge the battery. This can occur whether the Power switch is in the "ON" or "OFF" position. If the unit is placed in the sun with the Power switch in the "OFF" position, it will take 5 minutes before the CHARGE light begins to flash. If the switch is in the "ON" position, the CHARGE light will flash as long as the battery is not fully charged and there is solar energy available.

ii. Not Charging Mode

The CHARGE light will only flash when sufficient solar power is available to charge the battery. If it is not flashing, then the solar panels are not collecting sufficient energy to allow charging to take place. If the unit is in full sunlight and the CHARGE light is not flashing, it could be because the battery is fully charged, in which case the CHARGE light should burn a steady green. If the unit is not fully charged, leave the Solar-Breeze in the sun for 5 minutes and check again. If it is still not flashing, refer to "Charge Light Not Flashing" in the trouble-shooting section of this guide.

iii. Full Charge Mode

When the green CHARGE light burns a steady green, this indicates that the battery is fully charged and cannot accept additional current from the solar panels. At this point, the charging process will stop until the battery has been drawn down to a level where it can accept additional current.

**8. Headlights and Taillights**

The Solar-Breeze is equipped with blue LED headlights and taillights that flash at night. These are provided for safety so that the unit is always visible in the pool. These lights will flash whether the unit is operating or in Stand By mode.

**9. Cleaning the Debris Collection Area**

The clear window provided on the top of the Solar-Breeze makes it possible to see when the debris collection area is becoming full. When this occurs, simply turn the switch to the "OFF" position and lift the Solar-Breeze from the pool using the front handle. Remove the debris tray by sliding it out the front of the unit, and empty the tray and collection area into a trash receptacle. We recommend that you also remove the white plastic screen and wash off the filter mesh when you empty the tray. You may also

choose to wash out the inside of the debris collection using a low-pressure stream from a garden hose. **DO NOT USE A PRESSURE WASHER TO CLEAN THE SOLAR-BREEZE.** Re-assemble the tray, screen and mesh, and slide it back into the Solar-Breeze. Place the unit back in the pool and turn the switch to the "ON" position.

### 10. Adding Chlorine Tablets to the Dispenser

To add chlorine tablets to the chemical dispenser, slide the chlorine dispenser out of the side of the Solar-Breeze. Add two (2) jumbo 3" chlorine tablets to the dispenser. **Never use more the two (2) jumbo 3" chlorine tablets in the chlorine dispenser at one time. Using more than two (2) chlorine tablets may prevent the Solar-Breeze from backing up properly when in reverse navigation mode.** Slide the dispenser back into the Solar-Breeze. Place the unit back in the pool and turn the switch to the "ON" position. With chlorine tablets in the dispenser, the Solar-Breeze can now clean AND sanitize your pool at the same time.

### 11. Maintaining Buoyancy

After several days or weeks of operation, water may accumulate in some areas of the apparatus where it cannot escape. This may impact the operation of the unit.

Symptoms of such water-logging may include:

- Unit moves more slowly through the water.
- Debris is pushed in front of the unit rather than being pulled into the collection area.
- Unit does not reverse properly when it goes into a reverse navigation.

When these symptoms occur, simply remove the Solar-Breeze from the pool and set it in a vertical position on its end (label towards the ground) facing the sun for a half day. This will allow it to dry, and will also allow the Solar-Breeze to gain a full charge. The unit should resume normal operation when it is placed back in the pool.



## 12. Cleaning the Solar-Breeze

After a period of weeks or months, the Solar-Breeze may begin to accumulate calcium or mineral deposits along the water line and also around the edges of the solar panels. Before these deposits become severe and either cause damage to the unit or impact its performance, we recommend that you clean the Solar-Breeze using the following procedure:

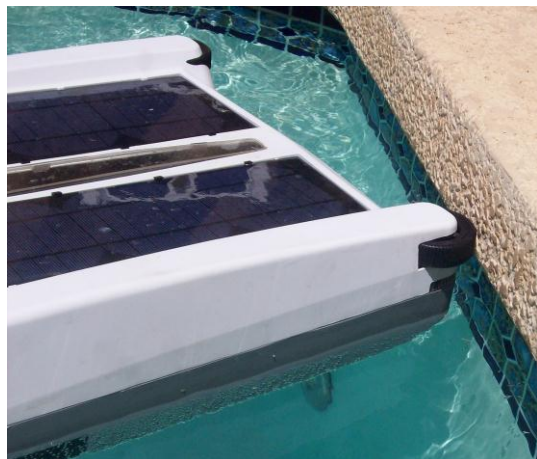
- Use a sponge or damp cloth to wipe down the Solar-Breeze with a dilute mixture of CLR and water to break down the mineral deposits.
- Thoroughly wash the Solar-Breeze using a mixture of warm water and soap.
- Dry the Solar-Breeze using a dry cloth.
- If desired, use a standard household glass cleaner to clean and shine the solar panels.

The procedure for cleaning debris from the collection area was covered in Section 8 of this guide.

## 13. Trouble-shooting the Solar-Breeze

### a. Adjusting the pool water level

The Solar-Breeze works best when the front bumper wheels can run freely along the side of the pool. When pools have a lip or overhang, the front bumper wheels or the top edge of the Solar-Breeze may get stuck under the lip or overhang. This may result in frequent reverse navigations or, in some cases, cause the unit to get stuck and not be able to move, even when it goes into reverse. This problem can normally be addressed by either raising the water level of the pool by 1" so that the front bumper wheels run along the lip of the pool, or by lowering the water level 1" so that the front bumper wheels and top edge of the Solar-Breeze are completely clear of the lip.



b. Getting stuck under a rock outcropping or other obstruction

Occasionally, pools may also have rock outcroppings or other obstructions where the nose of the Solar-Breeze will get caught underneath. As described above, this can sometimes cause the unit to get stuck and be unable to move. Once again, adjusting the water level up or down 1" will normally address this problem.

c. Unit does not back up far enough when in reverse navigation mode

Occasionally you may observe that the unit does back up far enough to get away from an obstruction when it goes into a reverse navigation. Possible causes and solutions for this behavior are outlined below:

1. The unit has become water-logged with water getting trapped in areas where it cannot escape. (See Section 11, Maintaining Buoyancy)
2. There are 3 chlorine tablets in the chlorine tray, causing the unit to have too much weight and blocking the flow of water through the chlorine tray while the unit is in reverse navigation mode. To solve this problem, remove at least one tablet from the tray.

d. Unit pushes debris ahead of it instead of drawing debris into the collection tray

This situation may arise if the front of the apparatus is riding too low in the water. This could result from one of the following situations:

1. The unit has become water-logged with water getting trapped in the front of the unit where it cannot escape. (See Section 11, Maintaining Buoyancy).
2. There is no chlorine in the chlorine tray. Since the unit is engineered to operate with chlorine in the tray, running without chlorine may cause the front end to run slightly lower in the water than is optimal. If this is the case, try adding one or two chlorine tablets to the tray, or an equivalent weight of approximately 6 ounces. This should cause the front end to raise up slightly and prevent debris from being pushed ahead of the apparatus.