Owner’s Manual

Rev. 1, May 2013

Solar-Breeze Robotic Pool Cleaner

Read the quick start guide on the back cover of this booklet to get started.
Safety Precautions:

- The Solar-Breeze pool cleaner 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 robot 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 robot to become swamped or submerged possibly causing damage and **voiding the warranty.**
- Never store the unit with chlorine aboard, as it may present both a fire and a corrosion hazard.

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, pollens and suntan lotions 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 power cords to operate.

   Power and Charging
   The Solar-Breeze is powered by direct sunlight. While operating in the sunlight, it will also collect and 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 down automatically primarily after dark. When this happens, the red “STATUS” 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 control panel and blue navigation LED lights flashing. In the morning, when there is direct sunlight on the pool again, the unit will re-start automatically.

   There is also a low battery “Hunt for Sun” mode (with the Status light blinking). If the sky is not dark the unit will run intermittently in an attempt to locate sunlight to charge its low battery. See section 5.d for further details.

   Propulsion and Debris Collection
   The Solar-Breeze is propelled through the water by a paddle-wheel located at the rear of the unit (where the control panel label is located). The paddle-wheel at the front of the Solar-Breeze pulls debris into the collection chamber inside the robot. Up to 489 gallons of water per hour will pass through the collection tray, a nylon mesh micro filter inside the tray remove large and very small particles, pollens, dust and even suntan oils that may be floating on the pool surface. The Solar-Breeze robot has twice the storage capacity than that of a skimmer basket in a typical pool skimmer inlet.
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 normally 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 mode. The unit will reverse for 50 seconds to allow it to back away from the obstacle. With the absence of obstacles, the Solar-Breeze will still reverse periodically to help randomize the direction of travel, and ensure that all areas of the pool are cleaned. While in reverse, the front paddle-wheel will continue to rotate forward, but at only half its normal speed. This helps to ensure that no debris escapes from the collection chamber while the unit is moving backwards.

Emptying the Debris Collection Tray
The clear window on top of the Solar-Breeze makes it possible to see when the debris collection chamber 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 chamber into a trash receptacle. If needed, it can be further cleaned by immersing and swishing in water, or by washing with a GENTLE stream of water from a garden hose, while it is out of the unit. Never immerse the Solar-Breeze or use a high pressure hose to clean the body of the unit as damage to the unit may occur. If necessary, a low-pressure flow from a garden hose is recommended (see Section 12, Cleaning the Solar-Breeze).

2. 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 handle provided on the front underside of the tray. Before operation, remove this tray, and make sure to remove the black zip ties holding the white screen and nylon micro filter in place during shipment. It is also possible to separate the white coarse screen and nylon micro filter to allow for further cleaning. (See Section 8, Cleaning the Debris Tray and Collection Chamber) Make sure the nylon micro filter is flat in the bottom and in the center of the black debris tray; then place the white screen on top of the nylon mesh, and lock it in place by inserting the 3 tabs on each side into the openings in the tray. Then carefully insert the whole debris tray assembly back into Solar-Breeze, by engaging the slots on both sides.
b. **Chlorine Dispenser**
   Slide the chlorine dispenser out the starboard side of the Solar-Breeze. The chlorine dispenser is designed to accommodate up to two (2) 3” jumbo chlorine tablets in the tray. You may wish to add chlorine tablets to the Solar-Breeze before you place the robot in the pool. With chlorine tablets in the dispenser, the Solar-Breeze will sanitize your pool at the same time it is removing debris from the surface.
   **NOTE:** By placing only one chlorine tablet in the dispenser it will encourage the Solar-Breeze to navigate left or right depending on placement of the chlorine tablet in the left or right compartment of the dispenser tray.

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3. **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 on the underside of the white top half of the unit. We recommend that you use both hands, 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 nylon micro filter are not disturbed inside the debris tray. Launching the robot properly consists of aiming it into open water (where it won’t hit a wall) and gently turning it on; allow it to move unassisted or unrestrained. (This helps the Solar-Breeze robot “learn” current pool conditions.)
4. **The On/Off Switch**

   After placing the Solar-Breeze robot in the pool, slide the switch to the “ON” position. The front and rear paddle-wheels should rotate in the forward direction and the robot should begin moving around the pool collecting debris in the collection chamber. Operating the ON/OFF switch resets the microprocessor back to factory settings, and should undo any unusual behavior that might occasionally be observed. Leave the switch in the “OFF” position for five minutes to insure microprocessor reset.

5. **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 paddle-wheel and front paddle-wheel both rotate in a forward direction with the rear paddle-wheel providing propulsion and the front paddle-wheel 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. The rear bumper-wheels are not motorized and are only freewheeling.

   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 paddle-wheel will turn in reverse at its normal speed in order to back away from the obstruction. The front paddle-wheel will continue to turn forward at \( \frac{1}{2} \) the normal speed to ensure that no debris escapes from the collection chamber.

      A normal reverse navigation should result in the unit moving backwards by 2 or 3 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, away from the obstruction.

      The Solar-Breeze will also reverse automatically every four minutes, even if it does not encounter an obstruction. The unit remains in reverse mode for about 50 seconds. The robot will normally turn in a different direction during each navigation reversal, 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 paddle-wheels will stop turning, and the red “STATUS” light will begin to 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 STATUS light will no longer flash.
d. **Hunt for Sun Mode**
   This intermittent mode occurs when the battery is low (blinking RED STATUS light) and the sky is brightly illuminated, but the unit is in shadow. Typically, shortly after sunrise, the unit will operate two minutes “ON” and eight minutes “OFF” (intermittently) until it finds a spot in the pool where there is direct sunlight, where it can stop and charge its battery in the sun. This mode ends near sunset, and reverts to Sleep Mode. If it is charging in the sun while operating in Hunt for Sun Mode and drifts into shadow, it will frequently start up and run in an attempt to find the sun and stop to charge again. If there is no direct sunlight (due to cloudy day, extreme shadow, or low sun angles in winter) it may repeat the hunt for Sun Mode Cycle continually with 2 minutes “On” and 8 minute “Off”.

6. **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 up to 10 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 ample solar energy available to both charge and run the motors at the same time. If the CHARGE light blinks at a slower rate (half the speed of the POWER light) when in sunlight on a very hot day, it is an indicator that the battery is currently too hot to accept a charge. In very hot weather, the unit may only be charged while running, in the pool.

      ii. **Not Charging Mode**
         The green 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 glow a steady green. If the unit is not fully charged, leave the Solar-Breeze in the sun for 10 minutes and check again. If the CHARGE light is still not flashing, the battery is not fully charged and the unit will still not operate when the switch is moved to the “ON” position, contact customerservice@solar-breeze.com or call 877-350-7665 for assistance.

      iii. **Full Charge Mode**
         When the green CHARGE light glows a steady green, this indicates 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. The steady green charge light can also occur after a day or two of storage, with the switch “OFF”. This is NORMAL, and is used by the microprocessor to drain the battery down to a slightly lower voltage for long term storage of the battery. It will go out by itself, after several days – this will prevent damage to the battery caused by long term storage at higher voltages.
7. Headlights and Taillights
The Solar-Breeze is equipped with blue LED headlights and taillights that flash only 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.

8. Cleaning the Debris Tray and Collection Chamber
The clear window on top of the Solar-Breeze makes it possible to see when the debris collection chamber is becoming full. When this occurs, simply turn the power 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 chamber into a trash receptacle. Keep the tray horizontal so that the debris will not fall off the tray. We recommend that you also remove the white plastic screen and wash off the filter mesh when emptying the tray. You may also choose to wash out the inside of the debris collection chamber using a low-pressure stream from a garden hose. DO NOT USE A HIGH PRESSURE STREAM OF WATER TO CLEAN THE BODY OF THE SOLAR-BREEZE. Re-assemble the tray, screen and micro filter then slide it back into the Solar-Breeze. Place the unit back in the pool and turn the switch to the “ON” position.

9. Adding Chlorine Tablets to the Dispenser
To add chlorine tablets to the chemical dispenser, slide the chlorine dispenser drawer out of the starboard side of the Solar-Breeze. Add one or two jumbo 3” chlorine tablets to the dispenser. Our tray is designed to hold a maximum of 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 drawer back into the Solar-Breeze. Place the unit back in the pool and turn the power switch to the “ON” position. With chlorine tablets in the dispenser drawer, the Solar-Breeze can now clean AND sanitize your pool at the same time.

10. Maintaining Buoyancy
After several days or weeks of operation, water may accumulate in some areas of the apparatus where it cannot escape. This may make the unit behave sluggishly. 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 chamber.
• Unit does not reverse properly when it goes into the reverse navigation mode.

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. Never rest the unit on the front bumper-wheels, as they may deform, and rub against the housing. The unit should resume normal operation when it is placed back in the pool.

11. 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 (in areas with hard water conditions) 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 soft dry cloth.
• If desired, use a standard household glass cleaner to clean and shine the solar panels. (As solar panels age, self-cleaning car wax can restore their luster and remove micro scratches.)

The procedure for cleaning debris from the collection chamber was covered in Section 8 of this guide.
12. Trouble-shooting the Solar-Breeze

a. **Any Odd behavior**
   When first turned on, the Solar-Breeze robot can take up to half an hour to “learn” current pool conditions. Because the Solar-Breeze is an intelligent Robot, it adjusts to conditions in the pool and learns behavior that can occasionally be in error. Turning the switch OFF/ON will always reset its microprocessor to factory preset conditions, to “unlearn” any anomalous behavior. Leave the switch in the “OFF” position for five minutes to insure microprocessor reset.

b. **Long term storage**
   Always charge the battery fully, before storage. The microprocessor may later cause the CHARGE light to come on, sometimes after a day or two, to drain the battery down to its optimum long term storage voltage. It will go out automatically, at the ideal storage voltage.
   Store the unit sitting on a flat surface, or in its original storage box, and do not set heavy objects atop it to prevent damaging the plastic housing, solar-panels or front bumper-wheels.

c. **High Temperature operations**
   If the air temperature is extremely high, all battery charging should be done with the switch turned on, in a swimming pool, to prevent battery damage. Usually, the pool water will cool the unit enough to allow charging. The unit will refuse to charge, if the battery is extremely hot, even when in the sun. This is indicated by a CHARGE light that blinks at half its usual rate (once/second rather than twice/second). If the CHARGE light blinks at half the speed of the POWER light, the battery itself is too hot to charge.

d. **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 the front bumper-wheels run along the lip of the pool, or by lowering the water level 1” so the front bumper-wheels and top edge of the Solar-Breeze are completely clear of the lip. It is best to have the front bumper-wheels riding above the pool skimmer inlet to minimize the chances of it getting stuck.
e. **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.

f. **Unit does not back up far enough when in reverse navigation mode**
   Occasionally you may observe that the unit does not back up far enough to get away from an obstruction when it goes into a reverse navigation mode. 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 too many fragments of chlorine tablets in the chlorine tray, causing the unit to have too much weight and or blocking water flow through the chlorine tray while the unit is in reverse navigation mode. To solve this problem, remove at least one tablet from the tray, preferably leaving one on the left “port” side only.

g. **Unit pushes debris ahead of it instead of drawing debris into the collection tray**
   This situation may arise if the front of the robot 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 chemical dispenser 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 - 10 ounces. This should cause the front end to rise up slightly and prevent debris from being pushed ahead of the apparatus.

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For support and service, please contact:

**Solar Pool Technologies Inc.**
23309 N. 17th Dr., Suite #120
Phoenix, AZ 85027-6306, USA

Phone: 623-582-2825
Fax: 623-582-1314

E-mail: customerservice@solar-breeze.com
Website: http://www.solar-breeze.com
Limited Warranty

The manufacturer of this product hereby warrants, subject to the conditions set forth below, that it will:

1. Provide a full refund of the original purchase price if the product proves to be unsatisfactory and is returned to the place of purchase within 30 days of the original purchase date.

2. Repair or replace the product, at its option, within 1 year of the original purchase date if it proves to be defective due to improper workmanship or materials. In order to obtain repairs or replacement under this limited warranty you must bring this product to the original place of purchase OR call the Warranty Service phone number listed below.

The following conditions apply to this Limited Warranty:

1. ORIGINAL PURCHASER. This limited warranty is limited to the original purchaser of this product from a retailer, manufacturer or authorized distributor.

2. UNAUTHORIZED REPAIR, ABUSE, ETC. This product shall not have been previously altered, repaired, or serviced by anyone other than a service facility authorized by the manufacturer or distributor to render such service. This product shall not have been subject to accident, misuse, abuse, casualty, vandalism, or operated contrary to instructions accompanying this product.

3. REGISTRATION. THIS WARRANTY, TO BE EFFECTIVE, MUST BE REGISTERED WITHIN 30 DAYS OF THE PURCHASE DATE BY EITHER REGISTERING ONLINE AT www.solar-breeze.com OR BY MAILING IN THE ENCLOSED WARRANTY REGISTRATION CARD.

4. EXCLUSIONS. This warranty does not apply to any Solar-Breeze unit that has been mistreated in any way, including if the unit has been:
   a. Submerged underwater sufficiently to get water inside the motors or electronic enclosures.
   b. Treated roughly so as to break components by what is obvious abuse (such as breaking the solar panels or cracking the plastic housing, paddle-wheels or other components).
   c. Stored or used in a pool of water where the pool surface freezes or becomes too foul to allow its use as a swimming pool, or allowed to remain in water during sleet, snow, tropical storms, or swimming activity.
   d. Stored (out of water) with chemicals still remaining in its Chemical Dispenser, or in excessively hot or cold environments (below 32°F or above 130°F).

Except to the extent prohibited by applicable law, no other warranties, whether expressed or implied, including the warranties of merchantability and fitness for a particular purpose, shall apply to this product. Under no circumstances shall manufacturer or distributors be liable for consequential or incidental damages in connection with this product. To the extent manufacturer is prohibited by applicable law from excluding implied warranties, the duration of such implied warranties, which are not excludable, shall be 1 year from the date of the purchase of this product at retail.

Manufacturer neither assumes nor authorizes any representative or other person to assume for it any obligation or liability other than such as is expressly set forth herein.

For warranty service, go to:

www.solar-breeze.com  Email customerservice@solar-breeze.com  Toll-free 877-350-7665
COMPONENT NAMES

1. Solar Panel
2. Front Paddle-wheel
3. Rear Paddle-wheel
4. Collection Tray
5. Viewing window
6. Chemical Dispenser, a. Two 3" chlorine tablets
7. Control Panel a. POWER Indicator LED (green) b. STATUS 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)
QUICK START GUIDE

Congratulations on owning a Solar-Breeze, your intelligent robotic solar-powered pool cleaner. Your pool will now be “swim-ready”, saving you time, money and also helping the environment.

Quick Start for your Solar-Breeze is just that. All you need to do is put the unit in your pool and turn the Power switch to the “ON” position. The battery should have enough energy stored to turn the paddle-wheels and the Solar-Breeze will begin moving around your pool collecting debris and filtering the water. If the red Status light is flashing when you first turn the Power switch to “ON”, this indicates a low battery charge and the unit may stop in the sun to recharge when it finds a sunny spot in the pool. Alternatively, you may set the unit in a sunny spot on your deck with the Power switch in the “OFF” position to recharge for 4 to 6 hours. In very hot weather, the unit may only be charged while running, in the pool.

If you have not already done so, we suggest that you read the Owner’s Manual in its entirety. Also, go online at www.solar-breeze.com to view the “How It Works” video that will give you more details concerning the operation of the Solar-Breeze robot.

Here are some other helpful points:

• We recommend that you register your Solar-Breeze within 30 days from the date of purchase either online or by mailing with the enclosed Warranty Registration Card. This is required for our Limited Warranty to be valid on your unit. The six digit serial number can be found on the underside of the robots solar panel. Simply sliding out the debris tray from the front of the robot and you will see the six digit serial number. The six digit serial number can also be found on the side of the cardboard box next to the barcode.

• The Solar-Breeze is a solar-powered pool cleaner that captures debris floating on the pool’s surface before it settles to the bottom. The solar panels capture the sun’s power runs the motors as well as charge the battery. The battery will store enough energy during the day to run the robot for several hours after the sun goes down. When the battery reaches its low energy level, the unit stops running, goes into a rest mode and waits for the sun to recharge the battery. When daylight comes it may run intermittently to hunt for the sun, then stop in the sun and charge.

• This is a programmed intelligent machine. If it gets stuck, it will back up. It moves around the pool randomly and will intermittently change directions to ensure that it covers the entire pool.

• The debris tray should be removed and cleaned periodically, depending on the amount of debris in your pool. There is a clear window on top to check the amount of debris. The debris chamber volume is approximately twice that of your pool skimmer basket.

• Solar Breeze is designed to hold a maximum of two large (3”) chlorine tablets in the unit’s chlorine tray so that it can systematically and uniformly dispense chlorine in your pool.

If you are not satisfied with the operation of this product for any reason DO NOT return it to your place of purchase. Instead, contact Solar Pool Technologies, Inc. at 877-350-7665 or customerservice@solar-breeze.com