

Installation, Use and Maintenance Instructions

SAVE THESE INSTRUCTIONS

Thank You for Purchasing the Sun Pump

The Sun Pump is a simple but effective way to automatically empty your boat of rain water. When properly installed, the Sun Pump can be used for freshwater open boats up to 18 ft long.

Important

Read all instructions carefully before installing and using this product.

DO NOT use the Sun Pump to remove gasoline, oil or other flammable liquids.

Always use a 2.5 Amp fuse.

Failure to do so could result in serious personal injury or fire hazards.

The Sun pump is designed to exhaust STANDING RAIN WATER ONLY. It is not intended to prevent accumulation of water due to rough weather, hull damage, and/or other unsafe conditions.

Components

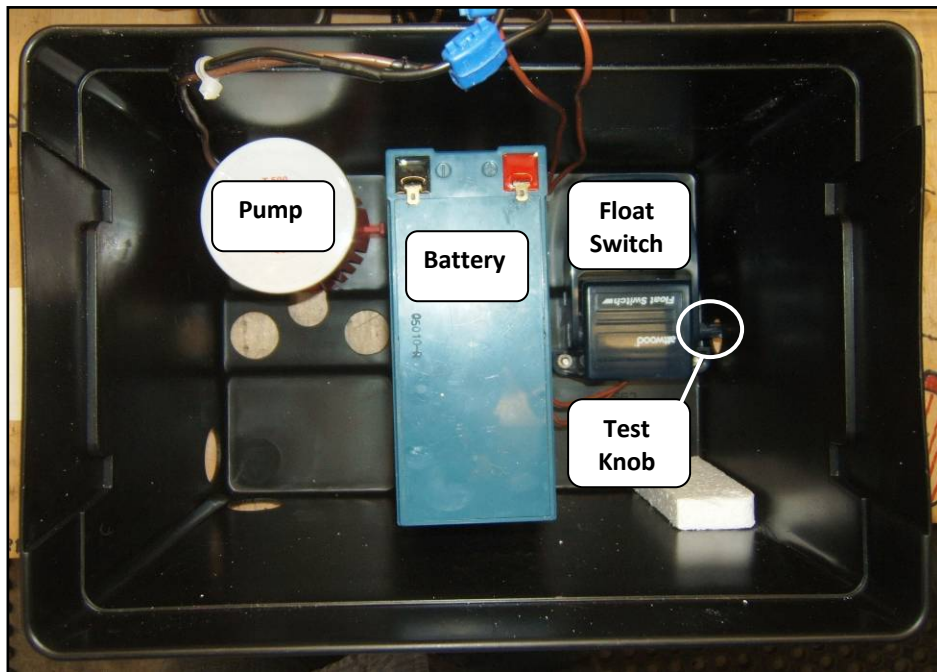
1. Sun Pump assembly with solar panel and weatherproof case
2. Discharge hose, 0.9M (3 ft) long
3. Releasable strap for securing the discharge hose

How the Sun Pump Works

Knowing how the Sun Pump works will allow you to leave your boat with the confidence that it will be emptied of water while you are away.

The Sun Pump has four critical components:

1. A small but powerful **pump** to remove water from your boat.
2. A **float switch**, to turn the pump on and off.
3. A spill proof, sealed, **12 Volt battery pack** to power the pump.
4. A **solar panel** to charge the battery.



Assembling and Installing the Sun Pump


When installed properly, the pump will turn on when about 6 cm (2 ½") of water accumulates and turn off when the water level is reduced to about 2.5 cm (1").

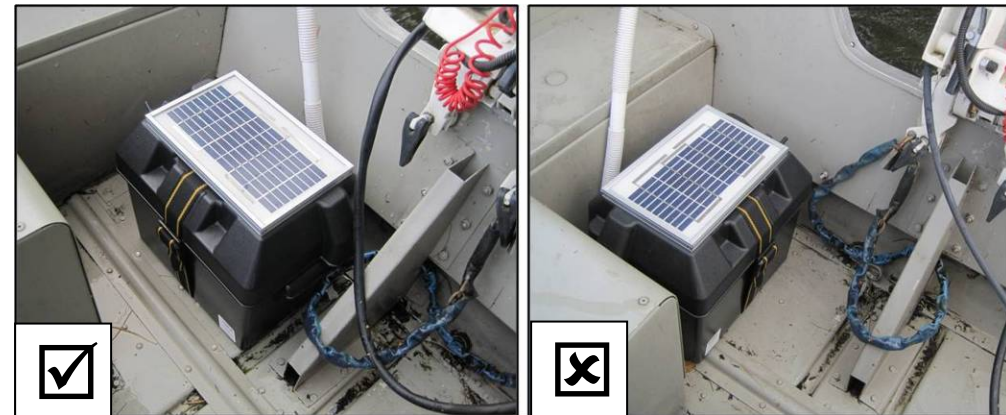
Attach the discharge hose to the outlet of the pump. A twist may be required.




Place the Sun Pump in your boat

Put it on the floor of the boat at the rear, near the motor. The lower you put it, the more water that will be removed.

 **Important:** The Sun Pump must be placed on a reasonably flat surface. Curvature or ribs in the boat can cause it to be at an angle. In order for the Sun Pump to operate correctly, the outlet of the pump must be at the lower point in the boat. See example below.



Hang the discharge end of the hose over the side of the boat and secure

 **Important:** Secure the hose to the gunwale, a handle or a fixed point on the top edge of your boat with the releasable strap. **The hose must be well secured** so that the discharge end of the hose **will not fall back into the boat** when water is being pumped. **The discharge end of the hose must not be able to fall into or be immersed in the lake.**

⚠ Important - Test that the pump is operating correctly

The switch that controls the pump has 2 positions:

“DOWN” – Automatic ON. The pump is controlled by the float switch.

“UP” – Manual ON. The pump is turned on.

Toggle the switch UP to the **“Manual” ON** position. **The pump should turn on.** You should hear the sound of the pump operating.

Toggle the switch DOWN to the **Automatic** position. **The pump should turn off.**

Find the **Blue test knob on the float switch**, which projects slightly through the case near the bottom. **Rotate the knob counter-clockwise. The pump should turn on.**

When first installed, it is recommended that you **test the Sun Pump by filling your boat with enough water to start the pump.** When the pump starts, water will be pumped from the boat and you can validate that the outlet hose has been securely installed to both the pump and the side of the boat.

Leave the Switch in the Automatic ON “DOWN” position to automatically bail your boat

You can drain most of the water from the boat by putting weight on the corner of the boat so that it pools under the sun pump. toggling to Manual On will allow you to drain even more.

Moor your boat in a location where it will receive plenty of sunlight

Your boat **must not be moored in a shady location** or, over time, the battery pack will lose its charge.

Remove material from your boat that may foul the pump

Debris in your boat can be swept by rain water into the pump and float switch. The less material in the boat, the less likely that the pump or float switch will jam.

(Optional) Lock your Sun Pump to a fixed point on your boat.

Thread a cable or bicycle lock (not included) through the holes in the lower corner of the Sun Pump. Lock the cable to your motor or other secure point on your boat.

Using the Sun Pump

The Sun Pump can be left in the boat or removed when you are out in the boat. If you remove it, leave it in any sunny location so that it is always fully charged. The battery pack is protected so you can't overcharge it.

The solar panel is covered with tempered glass. Although it is tough and durable, a sharp blow to the surface of the solar panel can shatter the glass making it inoperable.

Do not turn the Sun Pump upside down. The battery will become dislodged.

The components in the base of the Sun Pump are either completely sealed or water resistant. Flotation has been built into the base of the Sun Pump to protect it from being submerged for a short time if it is accidentally dropped into deep water.

Do not put the Sun Pump in water deeper than 15 cm (6"). If the cover of the Sun Pump becomes immersed in water, the electrical connections may be adversely affected.



Toggle Switch Auto “Down” Manual “Up”



Protruding Blue Test Knob – rotate counterclockwise

Care and Maintenance

Occasionally check that debris is not accumulating in the Sun Pump where it can jam the pump or float switch. Rotate the test knob to be sure that the float switch is operating correctly. To clear out debris, use a garden hose to blast water into the base of the Sun Pump through the holes in the case.

Clean pollen, tree sap or dust from the top of the solar panel. Glass cleaner or vinegar and water will do a good job.

Winter Storage

Remove the Sun Pump and flush out the base of the interior with a garden hose to remove any debris. Store the Sun Pump **indoors**.

Prior to use for the first time in the spring, leave the sun pump outside in the sun for a period of several days to fully recharge the battery pack.

Troubleshooting

If you encounter a problem not covered here, or if these suggestions do not solve your problem, contact us through one of the means given on the Contact Us page at www.thesunpump.com or at sunpumpinfo@vianet.ca.

The pump will not turn on even when switched UP to Manual ON

1. The pump may be fouled with debris. Flush out the interior with a garden hose.
2. The fuse may be blown. Unscrew the fuse holder cover located beside the switch to expose the glass fuse. Check and replace as necessary with a new 2 ½ Amp fuse.
3. The battery pack may be fully discharged. Determine the cause and recharge as described below.

The pump will turn on when switched UP to Manual ON, but will not turn on when switched DOWN to Automatic ON even when there is water to pump or the test knob is rotated

1. The float switch is impeded from lifting and starting the pump. The foam flotation may have shifted, the battery may have become dislodged or some other debris is in the way. Disassemble the Sun Pump and adjust the components or manually remove debris. See Disassembly Instructions below.

The pump does not turn Off when switched to Automatic ON, even when there is little water to pump

1. Be sure that that Sun Pump is installed in a level location with the outlet of the pump at the lower point of the boat.
2. The float switch may be jammed. Rotate the test knob and flush the interior with a garden hose. If this does not work, disassemble the Sun Pump and adjust the components or manually remove debris. See Disassembly Instructions below.

The pump turns on when switched UP to Manual ON but pumps little to no water, even when there is plenty to pump

1. The pump may not be immersed in water. Be sure that that Sun Pump is installed in a level location with the outlet of the pump at the lower point of the boat. Check that the outlet hose runs upward and over the side of the boat with no dips.

2. The pump may have debris in the housing or the impeller may be damaged. Disassemble the Sun Pump and examine the pump to manually remove debris. See Disassembly Instructions below

What to do About a Fully Discharged Battery

When the Sun Pump is correctly used, the battery should not become fully discharged. To avoid this possibility from re-occurring please consider the following potential causes:

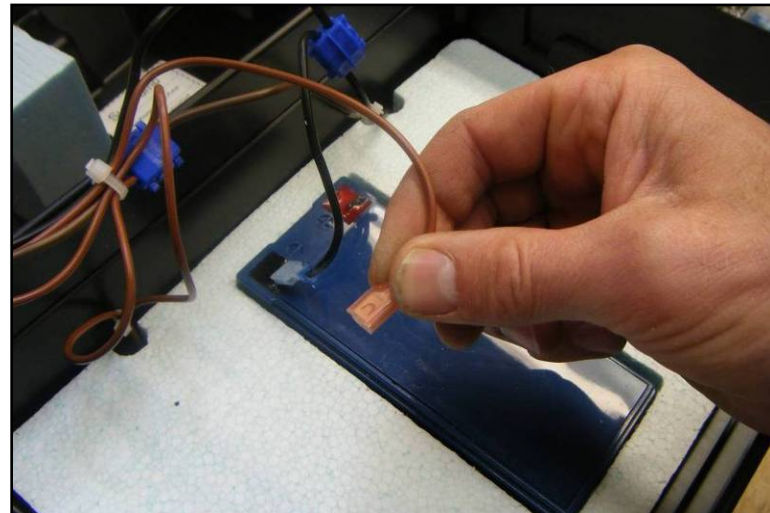
1. The Sun Pump is not positioned correctly. It must be relatively level, with the outlet of the pump at the lower level in the boat. If incorrectly positioned, the pump may become air locked and not shut off automatically when water is removed.
2. Excessive amount of water entered the boat. Some potential reasons:
 - a. The discharge end of the hose fell into the lake. This will cause water from the lake to siphon back into the boat after it has been pumped out.
 - b. The discharge end of the hose fell into the boat
 - c. The boat is leaking.
 - d. Run off from a nearby building is falling into the boat.
3. The boat is moored in a shady area.
4. The Sun Pump became immersed in water.
 - a. The Sun Pump was not turned on to the automatic position
 - b. The float switch or pump became jammed with debris
5. Due to a V bottom shape, the pump inlet is higher than the float switch.

Recharging

If the battery inadvertently becomes depleted, it can be recharged enough to be operable by leaving it in a sunny location for several days.

If you must recharge it more rapidly, use a small commercial battery charger.

1. Undo the strap on the lid and lift the lid off the top of the case.
2. Carefully unplug the spade connectors that attach to the battery pack. Do not tug on the wire or you may pull the wire from the connector. Be sure to pull at the connector.

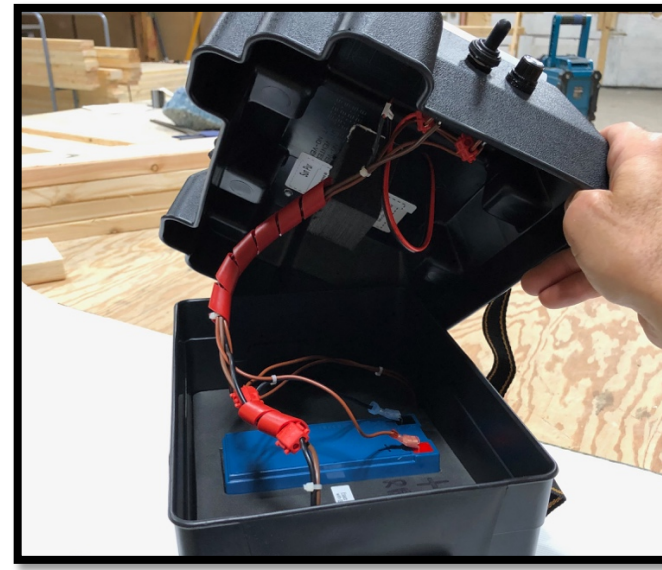
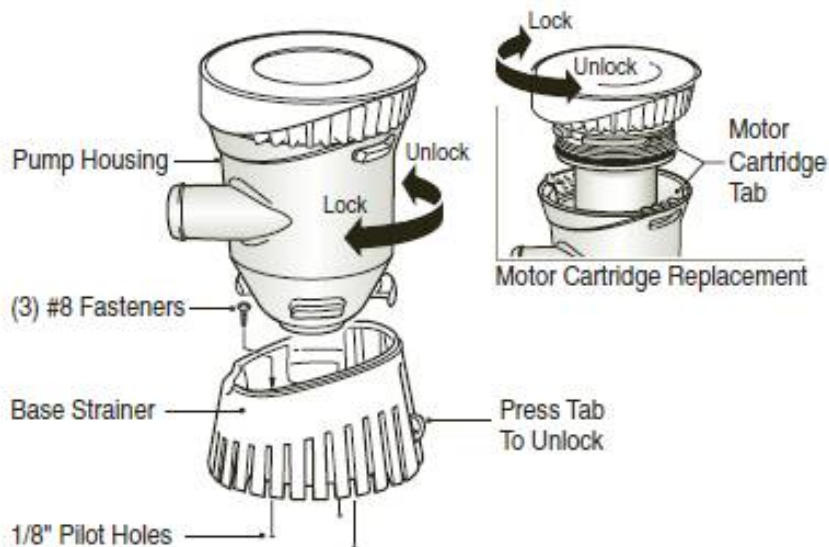


3. Connect a small battery trickle charger, suitable for use on motorcycles or ATV batteries, to charge the battery pack, per the instructions provided by the manufacturer of the battery charger.
4. After charging, reconnect the spade connectors to the battery pack, ensuring that the positive and negative are on the correct terminals.
5. Re-install the cover, securing it with the strap.

Disassembly

In the rare case where the Sun Pump must be completely disassembled:

1. Remove the hose from the pump
2. Undo the strap on the lid and lift the lid off the top of the case.
3. Carefully remove the foam flotation used to secure the battery pack, exposing the pump and float switch.
4. Remove pump housing from base as shown in diagram below. Remove debris from chamber and impeller.
5. Be sure impeller is firmly attached to shaft and is not cracked or broken
6. If the impeller is cracked, replace the motor cartridge:
 1. Hold the pump housing, depress the motor cartridge tab and twist the cartridge counter-clockwise to remove.
 2. Check the motor cartridge fit.
 3. To reinstall the cartridge, coat the O-ring with vegetable oil (petroleum-based oils will cause deterioration).
 4. Insert the cartridge into housing. Twist clockwise until you hear a tab snap up into the slot.



Limited Warranty

5027547 Ontario Ltd. warrants to the original purchaser of its products that the product will be free from manufacturing defects for a period of one (1) year. This warranty does not cover damage caused by or attributable to acts of God, abuse, misuse, improper maintenance, improper installation, unreasonable or improper use, unauthorized repairs or modifications, normal wear and tear, damage caused in transportation or other causes not arising out of defects in materials or workmanship. This product is for use in fresh water pleasure boats of up to 18 feet in length and for pumping rainwater only. Any other use, including but not limited to commercial, racing, or non-marine use, are not covered under this warranty. 5027547 Ontario Ltd. is not responsible or liable for indirect, special, or consequential damages arising out of or in connection with, the use of this product, or damages with respect to any economic loss, loss of property, or loss of revenues or profit. Any expenses involved in the removal, reinstallation or transportation of the product are not covered by the warranty.

Except as provided herein, 5027547 Ontario Ltd. makes no express warranties, and denies any implied warranty or merchantability or fitness for a particular purpose. Charges will be rendered for repairs to the product after the expiration of the aforesaid warranty period. This warranty may not be transferred.

We want you to be pleased. If something isn't right, call us. If we can help you over the phone we will. If not, we will give you a return authorization number and shipping instructions. Once we receive your package, we will repair, replace the Sun Pump or provide a refund. Charges for shipping and repair will be fair and consistent with our warranty. Unauthorized returns will not be accepted.

Questions and Returns

To ask your question or request a return, visit our website at www.thesunpump.com for contact information or email Richard at sunpumpinfo@vianet.ca.

7. Reassemble the components and reattach the cover, securing it with the strap.