

# Solar Battery Box Kit

## Assembly & Use Instructions

p/n: 000009

Lakeside Recreation LLC

[www.lakesiderecreation.com](http://www.lakesiderecreation.com)

### Safety Warnings

The responsibility for safe installation and operation of the battery and winch and prevention of personal injury and property damage ultimately rests with the operator.

Batteries contain gases which are flammable and explosive. Wear eye protection. Do not lean over with your face close to the battery while making connections.

Always disconnect the winch power leads before working in or around the winch drum.

The winch is designed for 12VDC power. Do not connect winch directly to 110 VAC house current.

See additional warnings and instructions supplied with the Solar Charge Controller.

### Battery Requirements

The Electric Winch Kit is powered by a 12v deep-cycle “marine” battery supplied by the user. A typical group 24 marine/rv battery with 85 minutes “reserve capacity” should power the winch for 50 to 100 cycles between charges (depending on the weight and slope). Retailers who sell automotive batteries typically also carry the marine/rv models of batteries. (Walmart, Sears, Home Depot, Menards, etc)

The Electric Winch Kit and Solar Battery Box have 5/16” ring connectors suitable for the studs on marine/rv batteries or the bolted connections on trolling motor batteries. The necessary wing nut or regular nut hardware may be supplied with the battery or may need to be purchased separately.

The Solar Charge Controller is designed to maintain the charge on a battery, not charge it from a completely discharged state. The battery must have some amount of charge for the Solar Charge Controller to function (new batteries come charged from the factory).

### Sun Requirements

The Solar Panel requires at least a few hours of direct sunlight shining on it per day to effectively keep the battery charged. Locations with continuous heavy shade will not be suitable for use of the Solar Battery Charging Box.

### **Assemble the Solar Panel To the Cover**

(Assembling the Solar Panel to the Battery Box can be accomplished on a convenient flat surface that need not be at the location of the Shore Ramp – do this portion of assembly on a workbench or table).

Assemble the Brackets to the Solar Panel using the Socket Head Screws and Lock-Nuts. Place the Solar Panel face-down and set the Bracket on the back of the Solar Panel aligned with the mounting holes drilled in the back lip. Use a needle-nose pliers to grip the nut on its sides and while holding the nut up under the lip aligned with the hole, insert the screw through the Bracket and Solar Panel lip and start the screw into the nut. Tighten the screw using a 1/8" hex wrench while continuing to hold the nut with the needle nose pliers. Alternatively, once started, the nut can be held with an open ended 3/8" wrench while tightening the screw.

With Solar Panel and Brackets still face down, place the Battery Box Cover on the Brackets and while aligning the mounting holes, insert a Socket Head Screw up through a hole in the Bracket and Battery Box Cover. Hold the screw while placing a Fender Washer inside the cover followed by starting the Lock-Nut on the screw. Loosely get all four screws in place with the washers and nuts started by hand before tightening them. While holding each screw with the 1/8" hex wrench, tighten the Lock-Nuts using a 3/8" wrench (or nut-driver) inside the cover.

### **Install in Direct Sun Near the Shore Ramp**

Place the battery in the Battery Box on the ground near the winch end of the ramp within reach of the winch power cables (apx 6' long) with the Solar Panel facing Southerly. Somewhat under the sun-ward side of the winch strut is usually a convenient location that is not a tripping hazard.

If using a single Solar Battery Box for two Shore Ramps equipped with Electric Winch Kits, the Solar Battery Box necessarily needs to be placed between the two ramps which must be close enough together for the winch power cables to both reach. Attempt to minimize the tripping hazard while maintaining good direct sunlight on the Solar Panel (i.e. not shaded by the PWCs on the Shore Ramps).

### **Connect the Solar Panel Wiring**

Use the supplied blue wire nuts to connect the **Black** wire from the solar panel cable to the **Bare Black** wire (sun -) on the Charge Controller and the **Red** wire from the Solar Panel cable to the **Bare Yellow** (sun +) wire on the Charge Controller.

Tuck the excess Solar Panel cable into the Battery Box alongside the battery and route the wire under one of the cable access protrusions on the Battery Box Cover while setting the cover on the box.

## **Connect the Battery Wiring**

**WARNING – Batteries contain and emit gases which are flammable and explosive. Wear eye protection during installation and avoid shorting across the terminals with metal tools or jewelry. Do not lean over with your face close to the battery while making connections.**

Flip the Cover and Solar Panel off and upside-down on the side where the short Charge Controller wires can reach the battery terminals when the cover is replaced.

Use the wing nuts supplied with the battery to connect both the Winch Power Cables and the Charge Controller wires stacked together to the terminals on the battery.

Connect the **Yellow** wire from the winch along with the **Red** wire from the Solar Charge Controller to the **positive (+)** terminal of the battery.

Connect the **Blue** wire from the winch along with the **Black** wire from the Solar Charge Controller to the **negative (-)** terminal of the battery.

Carefully place the cover back on the box while avoiding stress on the relatively short charge controller wires. Route the winch power and solar panel cables out under an access protrusion of the cover.

Test that the control switch runs the winch in the correct direction. If the winch does not operate, or turns in the incorrect direction, check the connections.

## **One Year Limited Warranty**

LAKESIDE RECREATION products are warranted to be free from defects in materials or workmanship for one (1) year from the date of purchase. Within this period we will provide a replacement for any component that fails in normal use. Such replacement will be made at no charge to you, provided that you shall be responsible for any shipping charges and labor for replacement of the component. Replacement products or components may be new or refurbished at the sole discretion of LAKESIDE RECREATION.

This warranty does not apply to: (a) cosmetic damage, such as scratches, nicks, stains and dents; (b) damage or loss caused by accident, abuse, misuse, or other acts of nature or external causes; (c) damage or failure due to improper assembly, improper installation, overloading beyond rated capacity, or use for purposes not intended; (d) damage to a product resulting from modification or alteration. Determination that damage or failure is not due to defects in material or workmanship and is therefore not covered under this warranty shall be at the sole discretion of LAKESIDE RECREATION.

To make a warranty claim, contact LAKESIDE RECREATION via the warranty claim link on [www.lakesiderecreation.com](http://www.lakesiderecreation.com) and provide a description of the failed component and your contact and shipping information. LAKESIDE RECREATION at its sole discretion may require photographic documentation of the failed component; require the failed component to be returned for inspection; and/or require the failed component to be returned in exchange for the replacement component. Returned components shall become the property of LAKESIDE RECREATION when a replacement component is provided. Please do not return any products or components without prior authorization. LAKESIDE RECREATION shall not be responsible for any shipping charges for any component or product returned to us, nor for any shipping charges to return back to you any component or product.

THE WARRANTIES AND REMEDIES CONTAINED HEREIN ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESS, IMPLIED, OR STATUTORY, INCLUDING ANY LIABILITY ARISING UNDER ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, STATUTORY OR OTHERWISE. Subject to applicable law, in no event shall our liability exceed the purchase price of the product.