LAKE LIFTER

DC POWERED BOAT LIFT MOTORS

Wiring & System Diagrams

IMPORTANT: Electrical Connections

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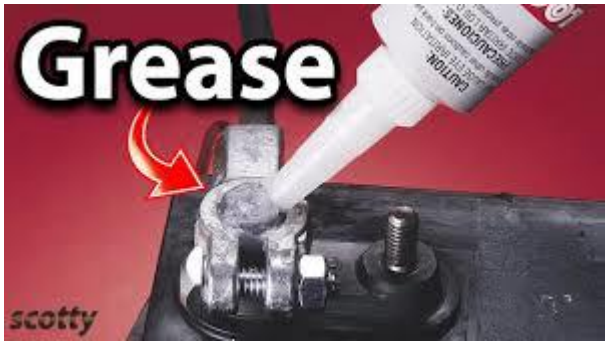
Electrical grease will protect and prolong electrical connections.

- Use dielectric grease to fill each motor and battery connector before connecting.

- Use dielectric grease on battery terminals.



IMPORTANT: Greasing Motor/Gearbox

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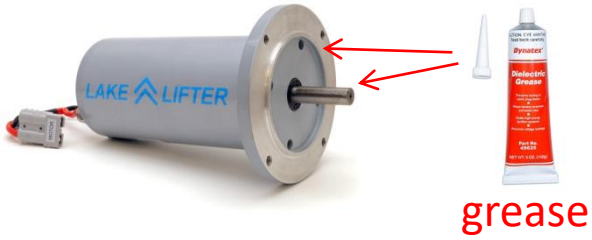
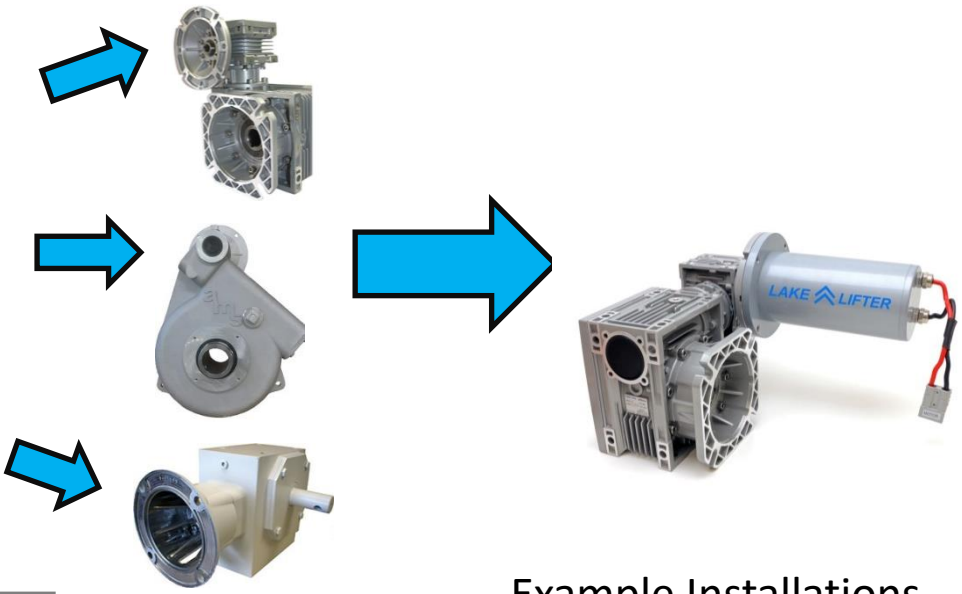
DC POWERED BOAT LIFT MOTORS



grease

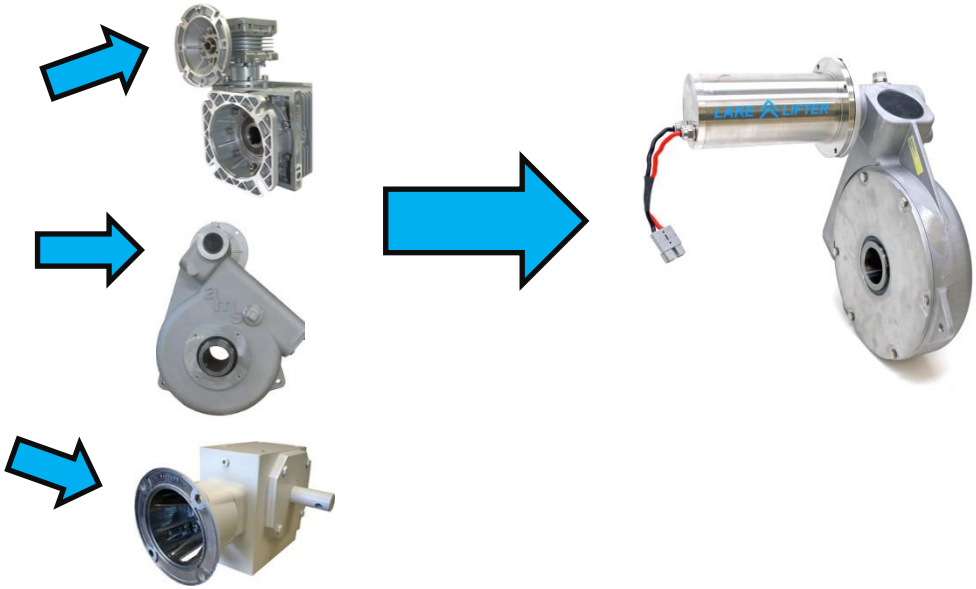
Install the motor on the boat hoist gear box: Gearbox style & type vary based on brand. The Lake Lifter motor is a 56C frame style which fits all boat lift enclosed style Gearboxes.

IMPORTANT: use grease on the motor face and shaft before installing. This will make future removal easier if necessary.



Example Installations

IMPORTANT: For Stainless Steel motor make sure to use the motor gasket between the motor and the gearbox. This will prevent dissimilar metal contact.



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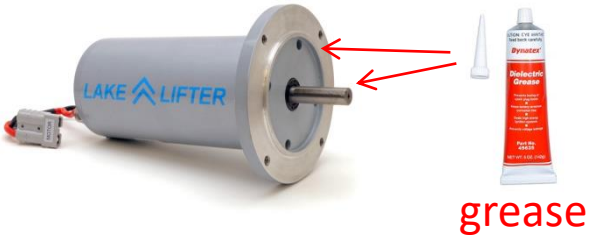

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IMPORTANT: use grease on the motor face and shaft before installing. This will make future removal easier if necessary.

Example Installations

Install both batteries, control box, battery connectors, and excess wiring in the fiberglass battery box

Example Installation

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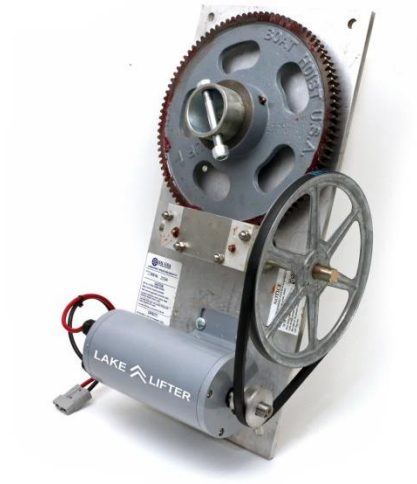

Install the motor on the boat hoist

Example Installation

Install both batteries, control box, battery connectors, and excess wiring in the fiberglass battery box

Example Installation

LIMITS: Using the Spring Limit Switch

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DC POWERED BOAT LIFT MOTORS

The limit switch can be used as an UP limit or a DN limit.

- For UP Limit: route the BLUE wires through the limit switch
- For DN limit: route the GREEN wires through the limit switch
- To EXCLUDE limits: keep the wires at the control box connected.

- *It is possible to purchase 2nd limit to have both UP + DN limits.*

BLUE WIRES = UP LIMIT

GREEN WIRES = DN LIMIT

Limit Switch Installation

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DC POWERED BOAT LIFT MOTORS

IMPORTANT: Install the limit switch in a location that will trip when the desired amount of cable has been spooled.

NOTE: Every boat lift configuration is different, and it is the responsibility of the user to determine the best installation method and placement.

UPDATE: DO NOT install the limit switch where it will be tripped by the boat lift carriage. Continual non-stop movement of the carriage via wind will eventually wear out the limit switch. For longevity we recommend installing the limit switch where the cable is spooled.

IMPORTANT: NEVER rely on the limit switch. The limit switch is a last resort safety device. Operator should always pay close attention when operating the boat lift.

OPTIONAL: Rotary Limit Switches – Provided by Boat Lift Mfg.

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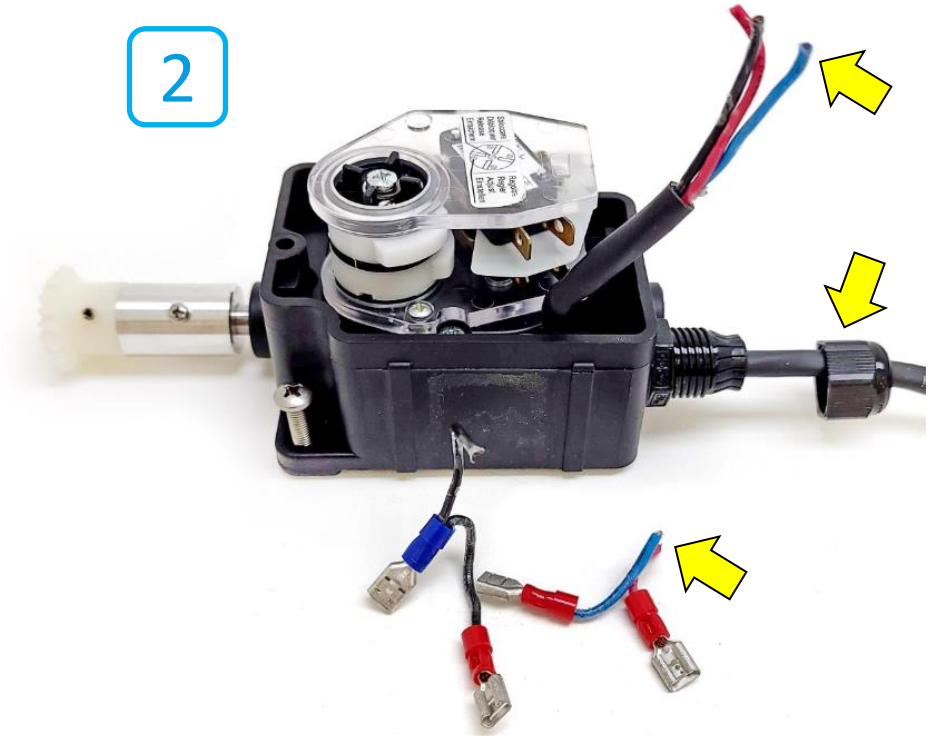
DC POWERED BOAT LIFT MOTORS

Rotary limit switches provide the benefit of having both an UP + DN limit. To make the rotary limit switch work with the DC-powered Lake Lifter system you will remove the 3-strand wire and replace it with the provided 4-strand wire. This will allow both micro switches to work independently. (2-wires for the UP switch) & (2-wires for the DN switch).

1

Open the rotary limit switch

2



Remove the spade connectors from the micro switches. Cut the spade connectors off. Loosen the cable gland nut and pull the old wire out.

OPTIONAL: Rotary Limit Switches – Provided by Boat Lift Mfg.

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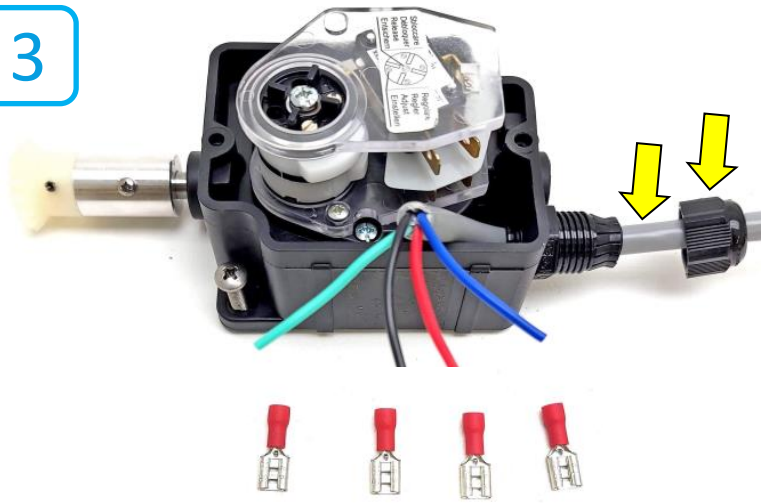
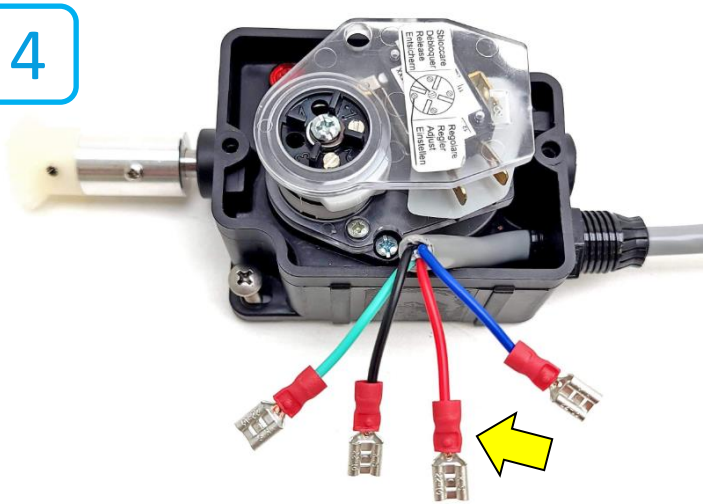
3



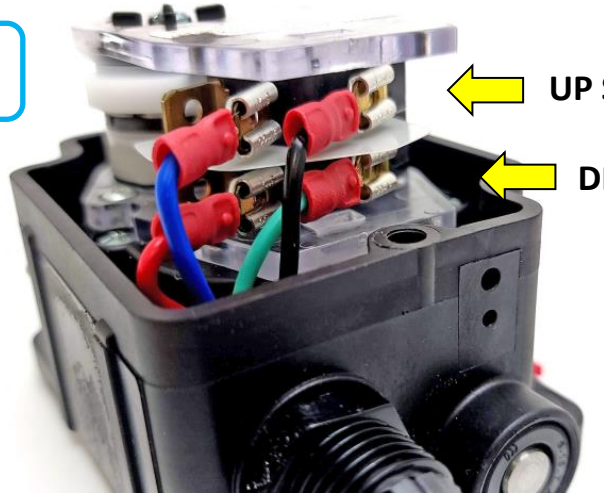
Feed the NEW 4-strand wire into the rotary switch

4



Strip the wires and attach the new spade terminals

5



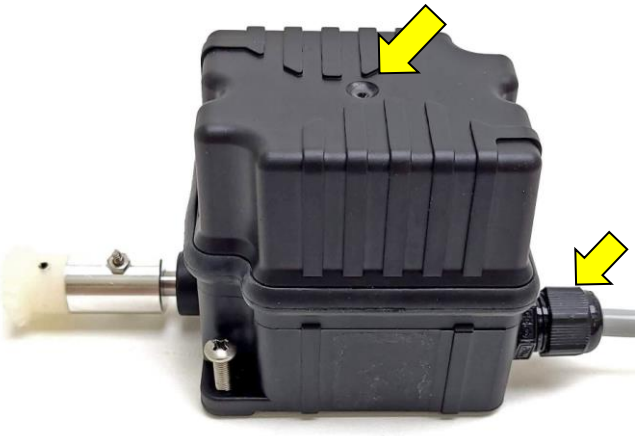
Example

UP Switch (Blue + Black)

DN Switch (Red + Green)

NOTE: Take photo so you remember which wire colors go to the UP & DN switches!

6



Reassemble the limit switch and tighten the cable gland

OPTIONAL: Rotary Limit Switches – Provided by Boat Lift Mfg.

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7

The rotary switch is now integrated with the control box. Carefully operate the boat lift and adjust the positions of the microswitches inside the rotary limit switch to trigger and the desired UP & DN limits.

Example Colors used from Step 6

UP Switch (Blue + Black)

DN Switch (Red + Green)

Wireless Key Fob & Wall Switch

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Switch cover may be removed and flipped for wire exit bottom or wire exit top

UP/DN directions may also be reversed by switching the wires inside

IMPORTANT: Wall Switch

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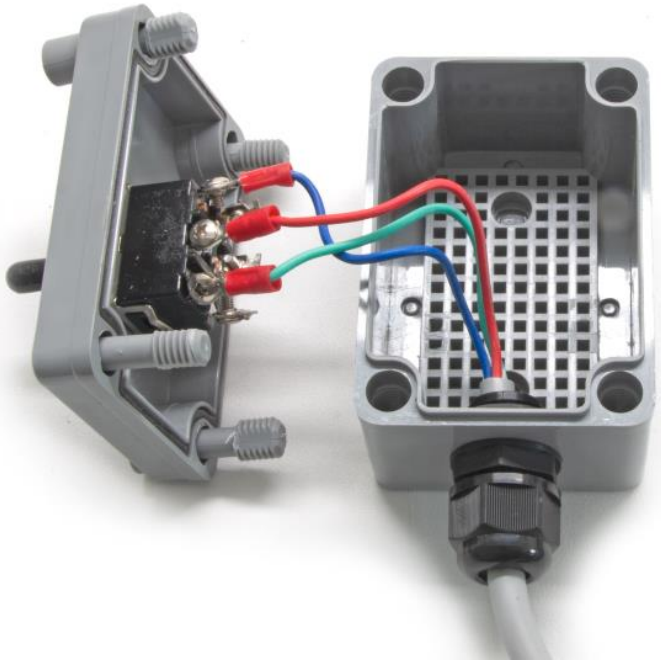
Switch cover may be removed and flipped for wire to exit bottom side or top side. **A Drain hole MUST be added!**

IMPORTANT: You MUST drill a small drain hole roughly 1/8" size in the bottom of the switch to prevent water or condensation build up. Failure to add a drain/vent hole may cause moisture/water build up in the switchbox that may lead to unintended operation of the boat lift when not present! Damage may occur to boat and boat lift!

Switch cover may be flipped



Wire bottom side

Wire top side

Add small Drain hole in bottom

Add small Drain hole in bottom

Reversing Motor Direction

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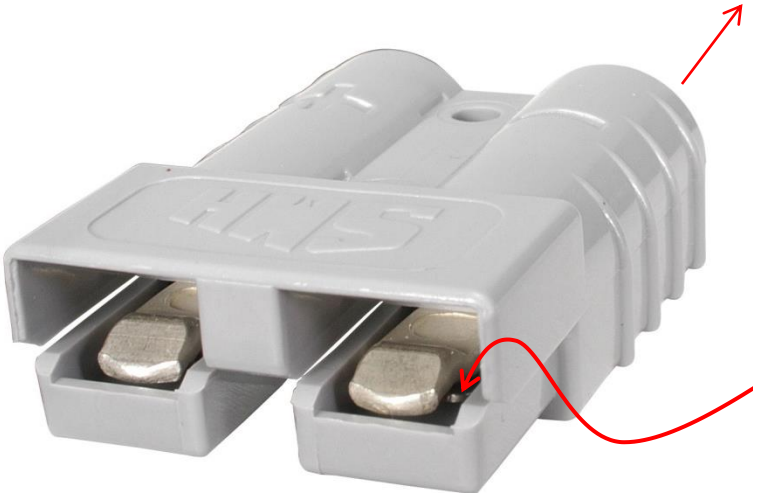
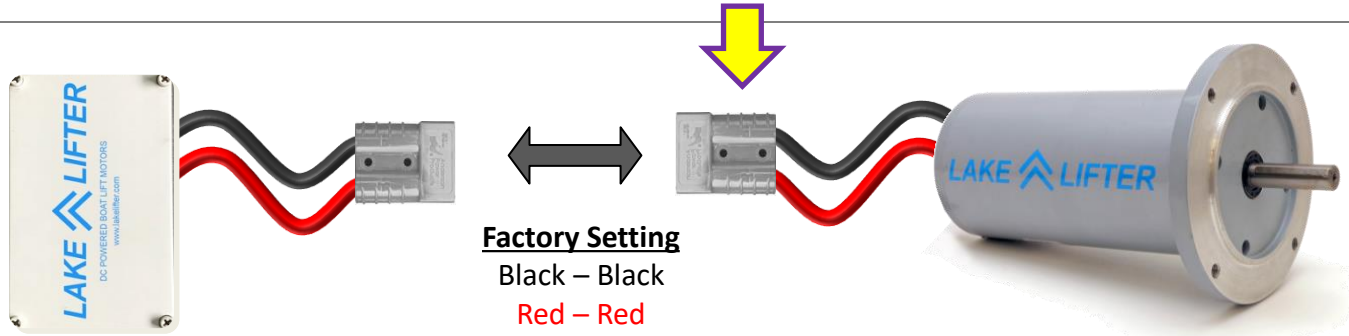
Depending on the cable wrapping direction you may need to change the operating direction of the motor from the factory setting.

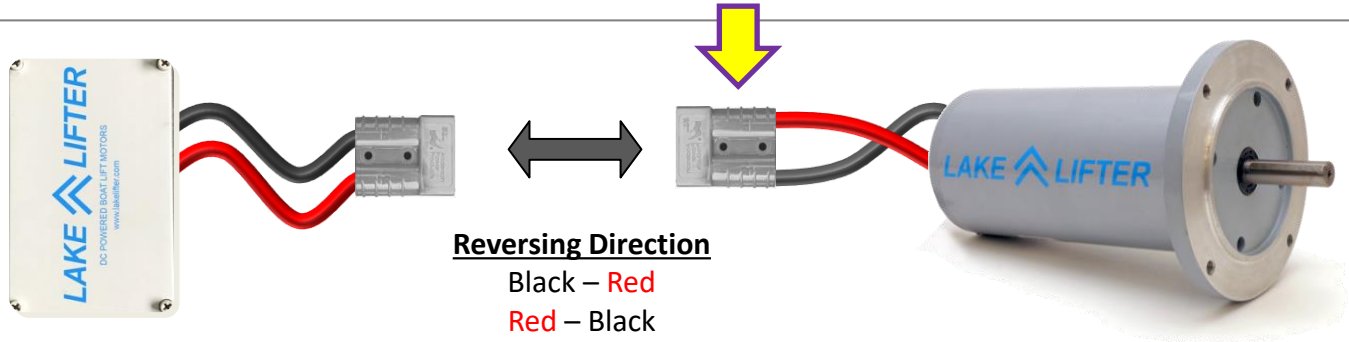
IMPORTANT: this may only be done at the MOTOR connector



Use small thin object to push spring tab down and remove contacts from connector. Reverse Red/Back wires and re-insert into connector



Factory Setting
Black – Black
Red – Red



Reversing Direction
Black – Red
Red – Black

Motor & Solar Connection Diagram

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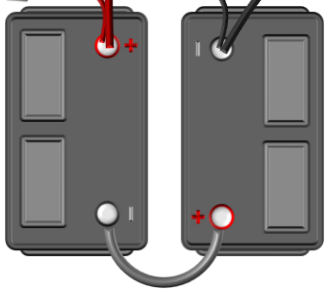
IMPORTANT: BATTERIES ARE THE LAST CONNECTIONS MADE!

24v Solar Panel

24v Solar Charge Regulator



Two (12v) Batteries
In a 24v Configuration

DC 24v Motor

Optional Limit Switch

Optional 12v LED Light

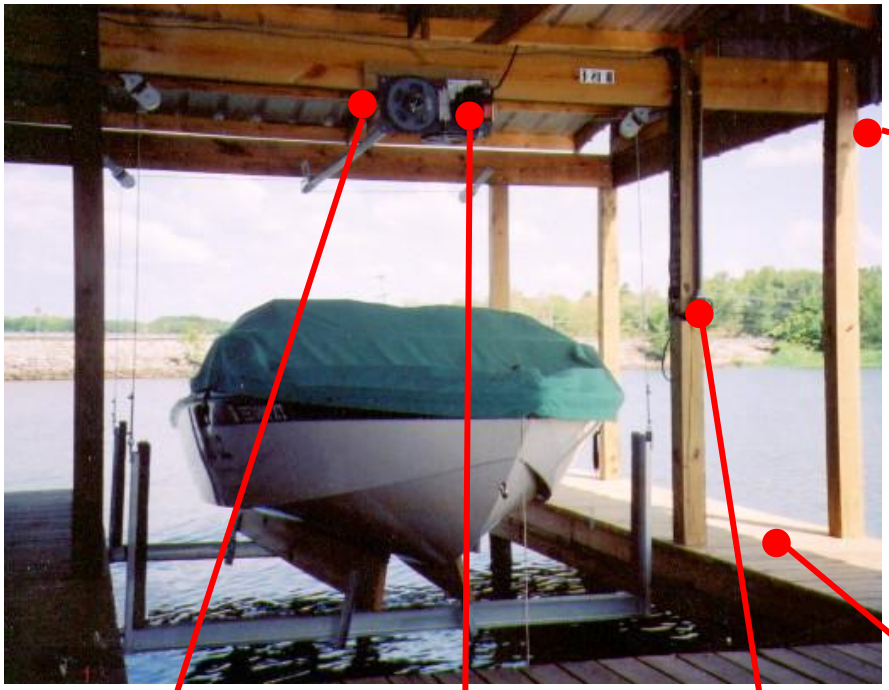
Wireless
Control Box

Optional Wall Switch

Wireless Key Fobs

SYSTEM OVERVIEW

LAKE LIFTER



Solar Charging Kit (Roof or post mount)

Two 12v Batteries not included

Wireless Control Box, 2 Key Fobs, Charge Regulator
Two Battery Indicators, Jumper Cable, Battery Box

Limit Switch
(Optional)

DC 24v Motor

Wall Switch
(Optional)

SYSTEM OVERVIEW

LAKE LIFTER

DC POWERED BOAT LIFT MOTORS

Solar Charging Kit (Roof or post mount)

Limit Switch

DC 24v Motor

Wall Switch
(Optional)

Two 12v Batteries not included

Wireless Control Box, 2 Key Fobs, Charge Regulator
Two Battery Indicators, Jumper Cable, Battery Box