



**Connecting the battery power cables backwards will result in permanent damage to the controller.**

**Please pay attention to your connections and double check all wiring before connecting the controller!**



# IMPORTANT



**LAKE LIFTER**

DC POWERED BOAT LIFT MOTORS



## **NEVER** operate the blower motor continuously for more than 5 minutes.

Air filled boat lifts typically take less than 5 minutes to fully lift. If your lift takes longer, please check hoses and valves for potential blockage. Reference your boat lift troubleshooting manual for other potential causes and problems.



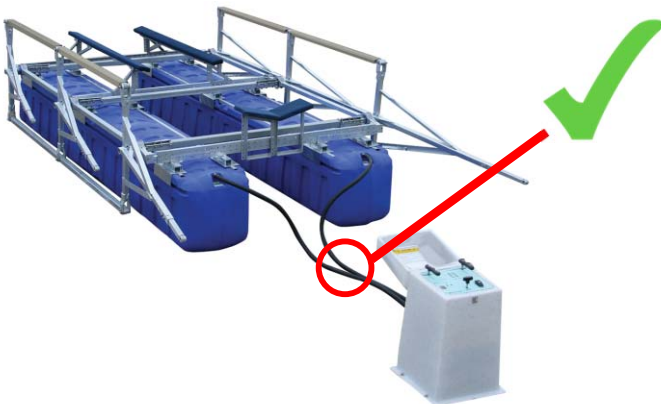
## **ALWAYS** let the motor & controller cool between uses.

Prolonged ON times and reduced cooling times will reduce system life. If the controller shuts down, let the motor and controller fully cool for 30 minutes before use. Repeating use without allowing cool-down may cause the controller and or motor to be permanently damaged.



## **ALWAYS** disconnect power at the fuse breaker when not using the boat lift.

Disconnect power to the system when not in use or if you do not plan to operate the system for a prolonged period of time. Place fuse breaker in a lockable box to prevent boat lift operation when away.



## **ONLY** operate the blower motor when connected to the boat lift hoses & tanks.

DO NOT operate the motor outside of the boat lift system. ONLY operate the motor when its installed in the boat lift control box and ensure the control box & hoses are connected to the air tanks on the boat lift. Operating the blower motor outside of the boat lift system may cause the controller to overheat and shut down. Repeating this may cause the controller and motor to be permanently damaged.

# SYSTEM OVERVIEW

# LAKE LIFTER

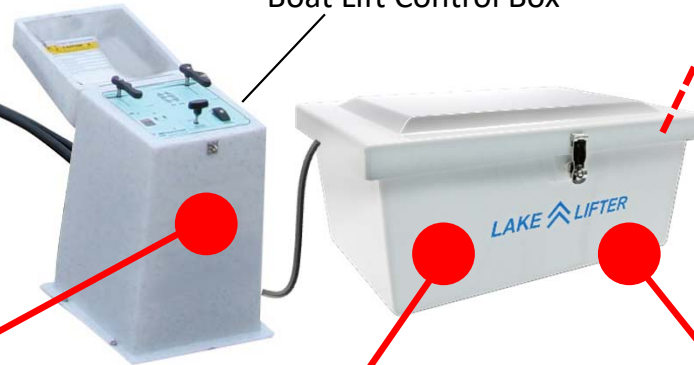
DC POWERED BOAT LIFT MOTORS



Boat Lift Control Box



Solar Charging Kit



Fiberglass Battery Box

*Two 12v Batteries not included*



DC 24v Blower Motor



Control Accessories



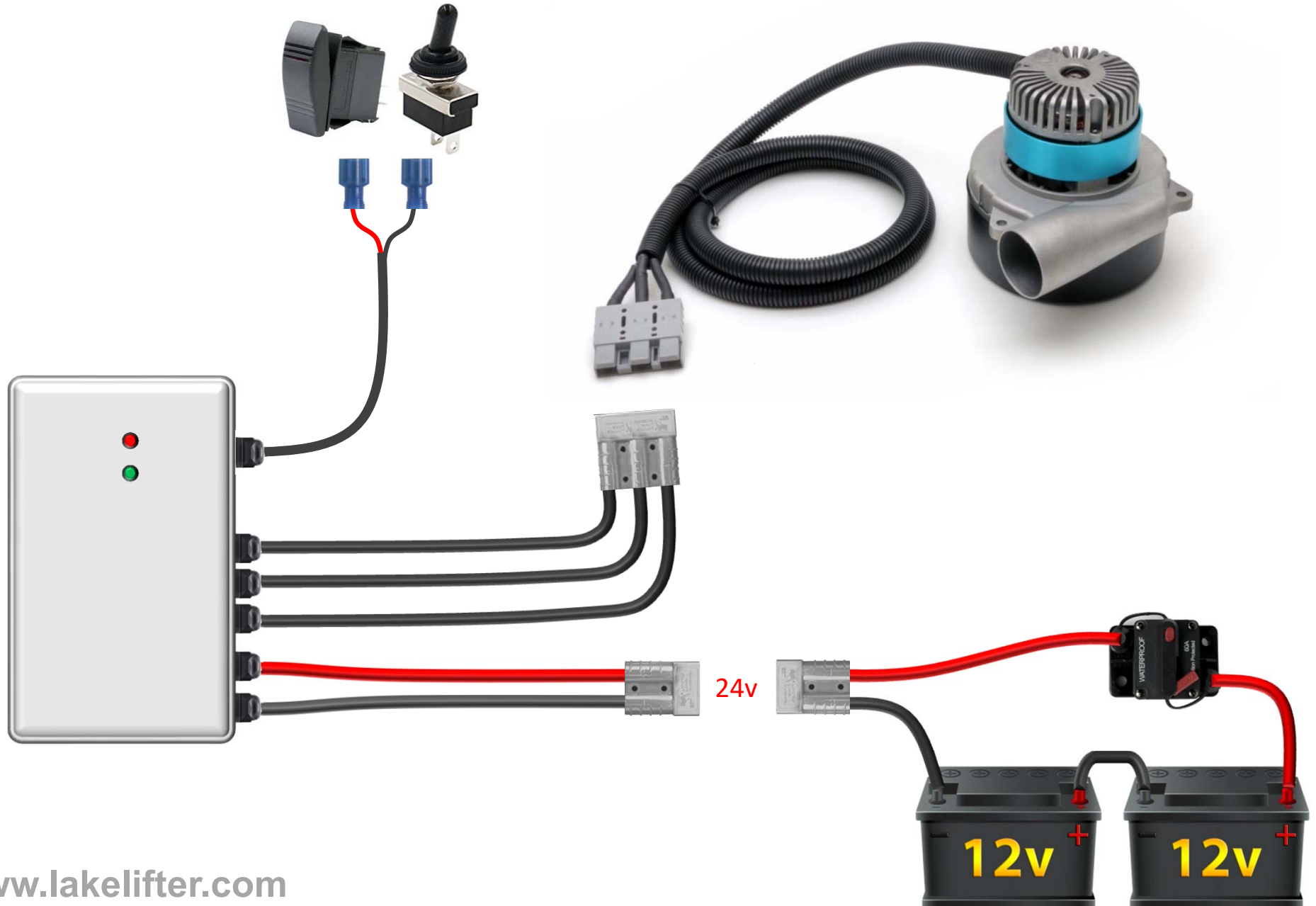
Charge Regulator, Two Battery Indicators

# MOTOR-CONTROLLER OVERVIEW

**LAKE LIFTER**

DC POWERED BOAT LIFT MOTORS

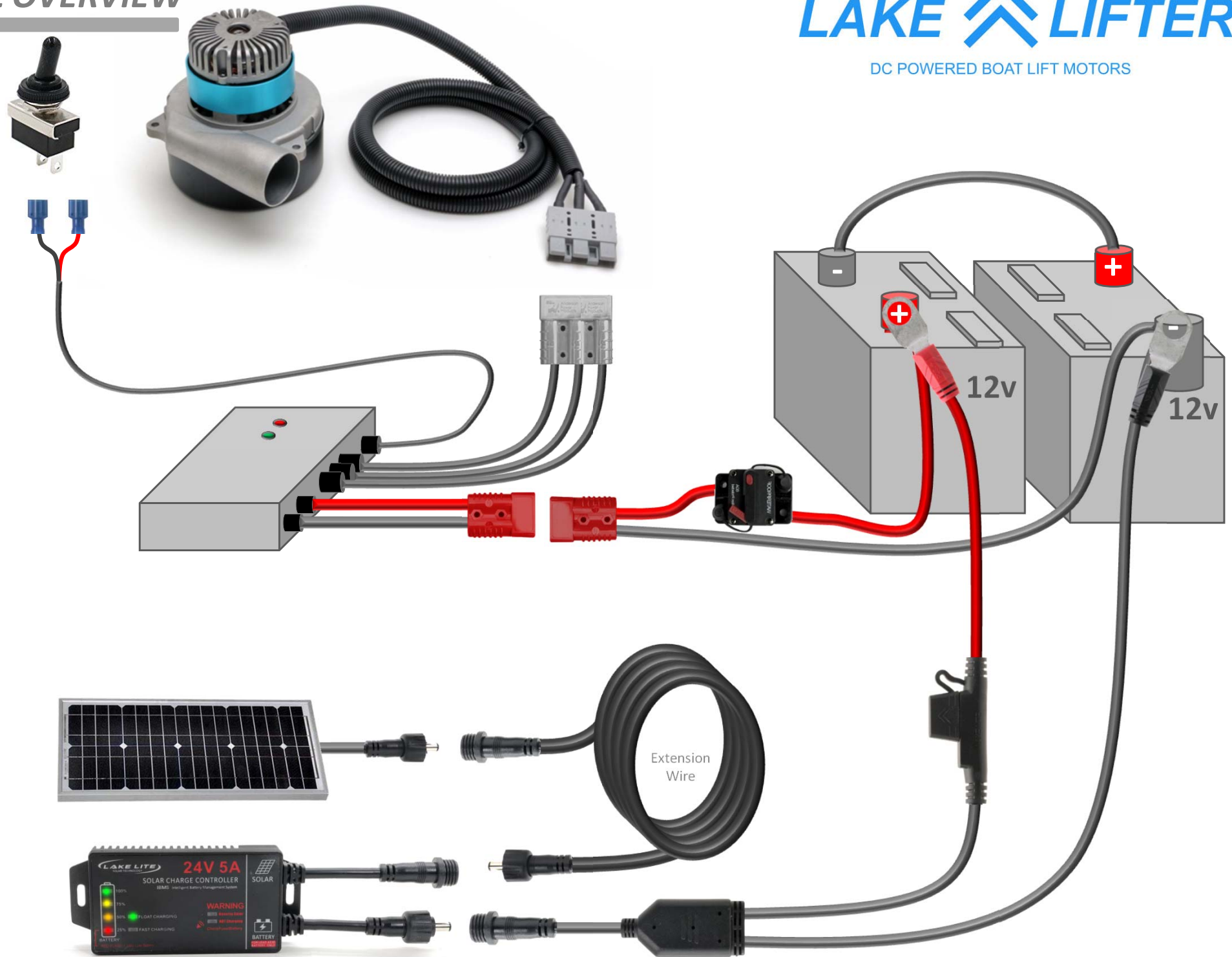
Trigger Switch Wire connects to Existing or New Switch



# FULL OVERVIEW

# LAKE LIFTER

DC POWERED BOAT LIFT MOTORS



### Green light; Motor & Controller functioning normally.

1. **Red Light**; flashes 1 time; buzzer sounds 1 time.
  - a) **Cause**: Electric current error.
  - b) **Solution**: Disconnect power at fuse breaker. Turn motor switch on for a few seconds to clear electrical static. Reconnect power and try again.
2. **Red Light**; flashes 2 times; buzzer sounds 2 times.
  - a) **Cause**: Peak current /overcurrent detected.
  - b) **Solution**: Disconnect power at fuse breaker. Turn motor switch on for a few seconds to clear electrical static. Reconnect power & try again.
3. **Red Light**; flashes 3 times; buzzer sounds 3 times.
  - a) **Cause**: Average current overcurrent detected.
  - b) **Solution**: Disconnect power at fuse breaker. Turn motor switch on for a few seconds to clear electrical static. Reconnect power and try again.
4. **Red Light**; flashes 4 times; buzzer sounds 4 times.
  - a) **Cause**: Stall/ Motor blocked or fan blade jam , does not turn.
  - b) **Solution**: VERY IMPORTANT: Disconnect Power First! Check if something has been sucked or lodged and may be blocking the fan blade, remove/clean as necessary. Reconnect power then try again
5. **Red Light**; flashes 5 times; buzzer sounds 5 times.
  - a) **Cause**: Under/Low voltage detected.
  - b) **Solution**: Disconnect the power first, check the voltage on the battery/batteries. Both batteries should provide 24-26 volts, or 12-13 volts if measured individually. NOTE: a bad battery may show good voltage but may not pass a LOAD TEST. If one battery can't pass a load test the voltage will drop dramatically when the motor is on.
6. **Red Light**; flashes 6 times; buzzer sounds 6 times.
  - a) **Cause**: Overvoltage detected.
  - b) **Solution**: Disconnect the power first, check if the voltage on the battery is normal.
7. **Red Light**; flashes 7 times; buzzer sounds 7 times.
  - a) **Cause**: Over temperature detected / Controller is too hot.
  - b) **Solution**: Disconnect the power first, wait 10-30 minutes for the controller to completely cool, reconnect power and try again. Do not operate the boat lift motor more than 5 minutes at a time. **NOTE: ONLY OPERATE THE MOTOR WHEN CONNECTED TO THE BOAT LIFT TANKS/HOSES.** Never operate the motor when disconnected from the boat lift.
8. **Red Light**; flashes 8 times; buzzer sounds 8 times.
  - a) **Cause**: Motor phase detection failure.
  - b) **Solution**: Disconnect the power first. Check all three wires between the motor and controller and ensure there are no loose connections. Check for broken wires or poor connection points.
9. **Red Light**; flashes 9 times; buzzer sounds 9 times.
  - a) **Cause**: Communication error.
  - b) **Solution**: Disconnect power at fuse breaker. Turn motor switch on for a few seconds to clear electrical static. Reconnect power and try again.