Quick Charge™ CORPORATION

OPERATING INSTRUCTIONS

OB, OBXU, On Board Battery Chargers

Including: OB2425GN, OB2425SJ

For Industrial Use: Designed for gel, wet cell, AGM, and Lithium Ion Batteries

Quick Charge Corp.
800 658-2841
e-mail- info@quickcharge.com
www.quickcharge.com Made in the U.S.A

Ver. 7-21

QUICK START INSTRUCTIONS:

Check that the temporary label on top of the charger marked with the profile setting matches your battery type. If not, see the reprogramming section.

These chargers work very simply. Once connected to batteries and plugged into AC power, the LED will flash red for a few seconds, then turn steady red. When the cycle is 80% complete it will turn yellow, and finally green when cycle is complete.

If the profile is set to float the battery(s) after complete charge, the LED will flicker green. If the profile is set to maintain after complete charge, the cycle will end with a steady green. The LED may also flicker when it is at the high limit of the charge cycle.

To discontinue charging, unplug AC power.

Look to the Trouble shooting section for any deviations from this.

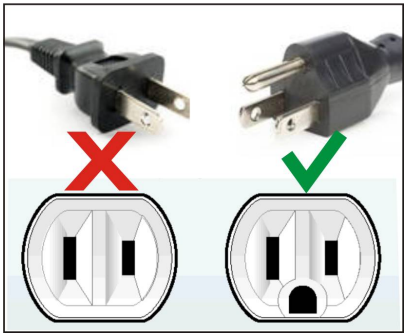
READ COMPLETE INSTRUCTIONS BEFORE PROCEEDING

SAFETY INFORMATION AC WIRING:

Before making AC connections, refer to the requirements on the charger ID label. If your charger is not equipped with an AC plug, *for example, a 230 volt charger*, have a qualified electrician install one.

To reduce the risk of fire, use this charger only on branch circuits that are protected by a circuit breaker or fuse, and that are adequate to carry the power drawn by the charger. All wiring should be in accordance with the National Electric Code, ANSI/NFPA 70, and all local codes and ordinances.

This battery charger must be grounded to reduce the risk of electric shock. 117 volt chargers are equipped with a grounding type plug,



DO NOT USE THIS CHARGER ON A TWO POLE UNGROUNDED OUTLET OR ATTEMPT TO BREAK OFF THE GROUND PRONG FOR USE ON A RECEPTACLE OR EXTENSION CORD NOT HAVING A GROUND.

If an extension cord must be used, make sure it is in good condition. Use a three conductor cord no smaller than the size being used on the charger, and keep it as short as possible. The use of an improper extension cord could result in a risk of a fire or electric shock. Locate all cords so that they will not be stepped on, tripped over, or otherwise subjected to damage or stress.

230 volt chargers are shipped without a plug. Have a qualified electrician install a properly grounded 3 wire plug.

OTHER SAFETY INFORMATION

Do not use charger if it shows signs of physical stress, or if DC output leads or connector feel hot when used.
Do not disconnect the DC output clamps, or connector from the batteries when the charger is on. The resulting arcing could cause the batteries to explode. Failure to unplug AC power before moving or driving equipment will result in damage to cords, plugs and receptacles.

BATTERY SAFETY & CARE INFORMATION

Always wear protective eye shields and clothing when working with batteries. Batteries contain acids which can cause bodily harm. Do not put wrenches or other metal objects across the battery terminal or battery top, arcing or explosion of the battery can result. Do not wear jewelry when working around batteries, arcing can cause severe burns. The tops of the batteries and battery hold downs must be kept clean and dry at all times to prevent excessive self discharge and flow of current between the battery post and frame.

With wet cell batteries, maintain the proper electrolyte level by adding water when necessary. Never allow the electrolyte level to fall below the top of the battery plates. Electrolyte levels fall during discharge and rise during charging. Therefore**, to prevent the overflow of electrolyte when charging, add water only after the batteries have been fully charged, or just enough to cover the plates if discharged.** Old batteries require more frequent additions of water than do new batteries.

Do not over discharge batteries. Excessive discharge can cause polarity reversal of individual cells resulting in complete battery failure. Re-charge batteries as soon as possible after a deep discharge, but not if they are warm, allow a cooling down period.

Provide adequate ventilation when charging batteries. Chargers can ignite flammable materials and vapors. Do not use near fuels, grain, dust, solvents, or other flammables. Do not charge batteries in excessively hot temperatures; wait till the cool of the evening.

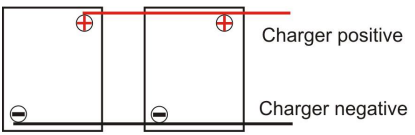
PRE CHARGE INFORMATION:

Mount the charger in the desired location, any orientation. Allow space for the charger to dissipate heat, it will get hot while in use. Do not seal the charger in an air tight compartment. Do not cover the charger with any material. **NOTE:** The OB models are *NOT* water proof, they are water resistant. This means they cannot withstand immersion, or continuous exposure from pressure washers, or heavy rain.

Connect the red charge lead to battery positive, black to negative. But before, make sure the battery pack is of the same voltage rating of the charger. If you are unsure, count the number of cells on the battery pack and multiply by two. This figure should be the same as the DC voltage rating of the charger. (*see ratings label on charger*) Charging a battery with a lower voltage rating than the charger will cause damage to batteries, charger, and can create an explosive atmosphere.

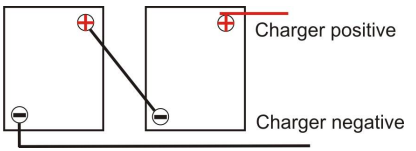
Make sure the AC cord, DC output leads, terminals, connectors, or clamps are all in good working condition. Do not use the charger if there are any signs of stress or damage, or if wires are cut or have damaged insulation. Using this charger with any of these symptoms could result in a fire, property damage, or personal injury. Have a qualified service person make the necessary repairs. Repairs should not be made by people who are not qualified.

Illustration of series and parallel battery connections:



Parallel

When batteries are connected in Parallel the battery amp hour capacity is additive and the voltage remains the same.
Example: two 180 amp hour 12 volt batteries would equal 12 volts and 360 amp hour capacity



Series

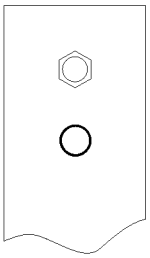
When batteries are connected in Series the voltage is additive and the battery amp hour capacity remains the same.
Example: two 180 amp hour 12 volt batteries would equal 24 volts and 180 amp hour capacity

DRIVE LOCKOUT OPTION:

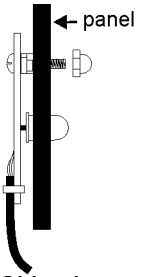
If your charger has an extra pair of small wires with a connector, spade terminals, or just bare wires, it has this option. These wires connect to your equipment, if it has this feature. The purpose is to disable the drive mechanism of the equipment when the charger is plugged in so it cannot be moved and cause damage to the AC cord and receptacle. **These wires do not have to be connected for the charger to work.**

REMOTE LED OPTION:

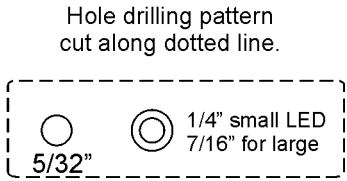
If your charger has this option, install as shown:



Front view
LED mounted
in panel

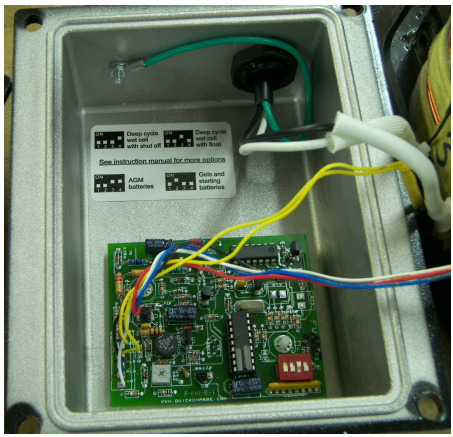


Side view
LED mounted
in panel

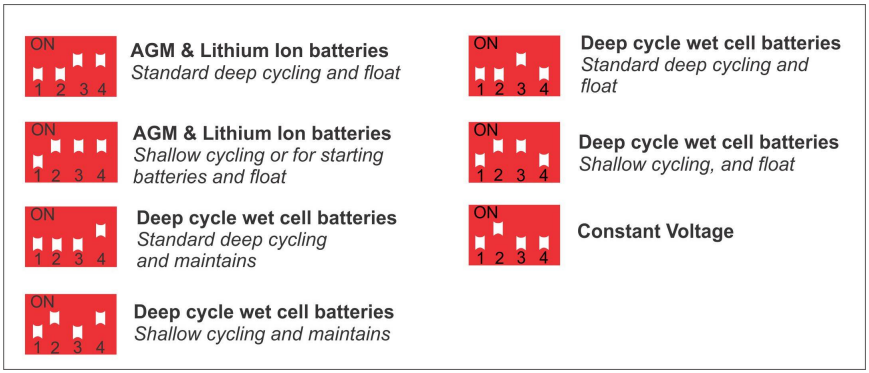


REPROGRAMMING:

Disconnect the charger from the batteries, and unplug the power cord. Remove the four bolts holding the covers on. Open the side with the LED and remove paper insulator.



These switch setting are for those chargers with a date code of JUN21 and older.



Definitions:

Standard deep cycling means regularly discharging your batteries to about 50% or more.

Shallow cycling means using your batteries for short periods of time, rarely subjecting them to a standard or deep discharge, or that the batteries are used often, but for short periods of time, and recharged often.

AGM are sealed batteries not requiring water, they are also referred to as **Gel** many times, although not officially a Gel battery.

Float means the charge cycle ends with the charger not turning off, but indefinitely putting in a small current to hold the voltage to a minimum level.

Maintain means the charger turns off at the end of the cycle, but will monitor the batteries and turn back on should the voltage drop to a minimum level preventing the batteries from going completely dead. This setting is recommended for batteries left unattended for long periods of time.

These switch settings are for those chargers with a date code of JULY21 and newer.

Pushing the switch away from the number is ON. Towards the number is OFF.

I am charging a sealed (AGM), or wet cell starting battery:

To end the cycle in float mode:

To end the cycle in maintain mode:

If the charger is small relative to the size of the battery, for example, if you are using a 10 amp charger on a truck battery, extra time may be needed. THEN:

I am charging a sealed (AGM) deep cycle battery:

To end the cycle in float mode:

To end the cycle in maintain mode:

If the charger is small relative to the size of the battery, for example, a 25 amp charger used on a battery rated at 400 amp hours or more, extra time may be needed.
THEN:

I am charging a wet cell deep cycle battery:

To end the cycle in float mode:

To end the cycle in maintain mode:

If the charger is small relative to the size of the battery, for example, a 25 amp charger used on a battery rated at 400 amp hours or more, extra time may be needed.
THEN:

for float,

for maintain.

If the charger is large relative to the size of the battery, for example, a 40 amp charger on batteries rated at 250 amp hours or less, less time should be selected. THEN:

for float, for maintain.

I am charging a Lithium Ion battery:

This assumes a standard commercially produced battery. Batteries that are put together second hand with a variety of cells, or modules may not be suitable for this setting check with us first.

Constant voltage setting:

Whereas the other settings can be said to be 3 stage profiles, this is a single stage profile. Lead acid's are brought up to 2.3 volts per cell and held there indefinitely. This could be used on starting batteries, or any sealed lead acid type where holding a constant voltage would be desired. Some applications might be batteries used in stand by power applications, or cases where batteries and charger combo are being used as a power supply.

Float mode versus Maintain mode:

In float mode the charger does not shut off completely, but supplies a very small current to the charged batteries to hold them in full charge condition. They will not be allowed to discharge at all. Using this setting, batteries may be left unattended for weeks at a time. However, if weeks could turn into months then the maintain mode would be more suitable. On wet cell batteries, there will be some water usage especially in hot weather using float mode.

In Maintain mode the charger will shut off, but the batteries will be maintained by way of the charger checking the batteries periodically using a combination of time, and minimum voltage. Use this setting for long periods of inactivity, or if it is just preferred over float mode.

Sometimes selecting the wrong switch setting will result in under or over charged batteries. Other times there is no, or little effect. The worst maladjusted switch setting would be using the wet cell setting on most sealed batteries, which will harm them fairly quickly due to overcharging. On the other hand, many wet cell deep cycle batteries are fine using the sealed AGM setting.

NOTE: The rest of the instructions apply to all chargers regardless of date code

A note on particular battery brands.

US Battery, **Full River, Odyssey, Northstar** are brands that benefit from longer charge cycles. When using these batteries, the #1 switch should be ON, which lengthens the cycle.

When re-assembling charger, replace paper insulator and reassemble, making sure not to pinch any wires in the covers.

EQUALIZATION:

When using multiple batteries in a series string, cells become uneven during charge and discharge cycles. At least once a month perform two charge cycles back to back, this will give a chance for cells that are lagging behind to catch up, and is important to overall battery performance. NOTE: This only needs to be done when charging wet cell, or AGM batteries. Disregard if charging Lithium batteries, or using the constant voltage setting.

TROUBLESHOOTING

Symptom	Cause	Corrective Action
When plugged into AC power the LED flashes red/green.	Connected reverse to battery, or not connected to battery. Break in DC cord, or connector. Battery too dead to charge.	Correct polarity, or connect to battery. Have a qualified person make repair. Replace.
When plugged into AC power the LED does not come on.	No AC power.	Check circuit. Check extension cord for breaks or damage.
When I put a volt meter across the output of the charger there is no power coming out when I plug it in.	The charger must be connected to a battery to turn on.	
The batteries don't receive a full charge. On wet cells, the specific gravity will not rise to a full reading after the charge has completed.	The charger is too small for the battery. The charge profile is not set correctly. The cycle needs more time.	Check that the charger's output is about 10% of the amp hour rating of the battery. Recheck the dip switch setting. If in doubt, contact us. Switch, #1 switch ON.

	The battery is defective	Replace.
When switched on, the LED flashes red/yellow.	Charger and battery voltage mismatch.	Connect the charger to a battery(s) with the same voltage rating.
When powered up the LED is solid red with a yellow flash.	The battery is very low, and the charger is in a slow charge phase, or safe mode until the voltage rises to a safe level before full turn on.	Leave connected, it may take hours, but if the voltage rises even a little bit, it should recover, and turn the charger full on. **(***Do not allow your batteries to deep discharge, it is the number one cause of premature battery failure*.)
The charger blows it's fuse, or branch circuit fuse/circuit breaker as soon as it's switched on.	Charger is shorted.	Contact factory.
The charger blows the branch circuit fuse/circuit breaker a short while after being switched on.	The branch circuit is too small.	Relocate charger to a branch circuit with a heavier rating, or remove other loads on the circuit.
Batteries use water, get hot, or smell.	One or more dead cells. Dip switch not set correctly.	Replace batteries. If charging in a series string, it is best to replace all the batteries rather than mix new with old. If shallow discharging, check that the dip switch is not set to standard, or extended cycle.
After a full charge, the batteries die quickly	The batteries are bad.	Replace

After a full charge the LED is green with a yellow flash	The batteries did not reach 80% charge in 12 hours, or did not reach minimum voltage, and the charger timed out.	The charger is too small for the batteries. Batteries are beginning to age. Sometimes running a second cycle will achieve full charge, but battery replacement, or a larger charger may be needed.

QUICK CHARGE OB Battery Chargers
"LIMITED WARRANTY"

Quick Charge Corporation warrants the OB line of chargers for three (3) years from the date of purchase. After the warranty period, chargers returned to the factory for repair will be charged a minimum rate of $25.00. Charger will be returned, freight and repair charges, C.O.D. unless other arrangements have been made. This warranty covers all defects in manufacture and performance, provided the unit is operated in compliance with manufacture's operating instructions.
For repairs to be made at the Quick Charge factory, a charger and/or component(s) should be sent, freight prepaid to Quick Charge at:

Quick Charge Corp.
1032 S.W. 22nd St.
Oklahoma City, OK. 73109

Quick Charge, will at it's option, repair or replace the charger or component in question. The repaired item will then be returned, freight prepaid by Quick Charge. This warranty is void if the charger or component have been altered, changed, or repaired by anyone not authorized by Quick Charge, or if the charger or component, have been subjected to misuse, negligence, or harsh environmental conditions. (Except those chargers designed for such conditions)
If returning the charger to the factory is not practical, replacement parts may be shipped to the customer for field repair at no charge. On parts such as circuit boards, the customer will be required to return the board suspected to be defective to Quick Charge, freight prepaid. If such defective parts are not returned, the customer will be invoiced for the repair parts. Field repairs are made at the user's own risk. "Authorization" by Quick Charge to repair refers to maintaining the warranty only. Quick Charge assumes no responsibility or liability for field servicing, and shall not be responsible for incurred travel or labor charges.
Quick Charge corporation shall not in any event be liable for the cost of any special, indirect or consequential damages to anyone, product or thing. This warranty is in lieu of all other warranties expressed or implied. Quick Charge neither assumes nor authorizes any representative or other person to assume for us any liability in connection with the sale of this product.