

Instructions For Auto-Timer 30930/30931

As with any installation wear appropriate safety glasses and disconnect the charger from the car and AC wall socket!

Mount the Auto-Timer on the charger face plate using the supplied template. Make sure when drilling holes you do not drill into wires or components inside the charger. The Auto-Timer is powered by DC battery voltage through the red positive wire and black negative wire from the Auto-Timer. So make sure these wires are connected to the charger wiring as per the diagrams. The two white Auto-Timer wires are the AC make/break wires (relay). Connect one transformer lead to either one of the white AT (Auto-Timer) wires. The other white AT wire will connect to the white AC line wire from the AC cord.

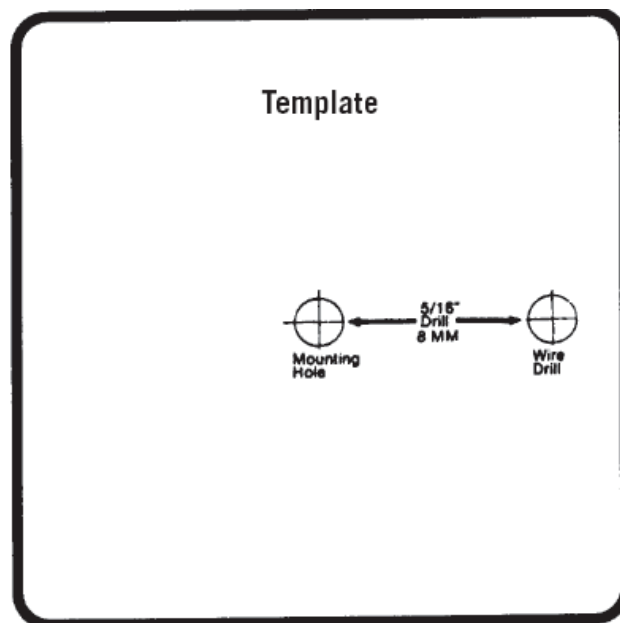
Remove any existing PC boards or excess relays as the relay now is inside the AT. Note: this unit is for Ferro-Resonant chargers only!

How the AT works is quite simple! Connect the AC cord into a known AC outlet rated at 120 volts. Connect the DC cord into car and wait approximately 3 to 5 seconds for charger activation. The ammeter on the charger should read at a high rate. The AT Initial charge LED should now be lit. After 8 to 10 hours you should see the finish charge rate LED light, you will also notice the ammeter will now be at a low charging rate. This is called the finish rate, and once the AT senses certain DC voltage it will shut off.

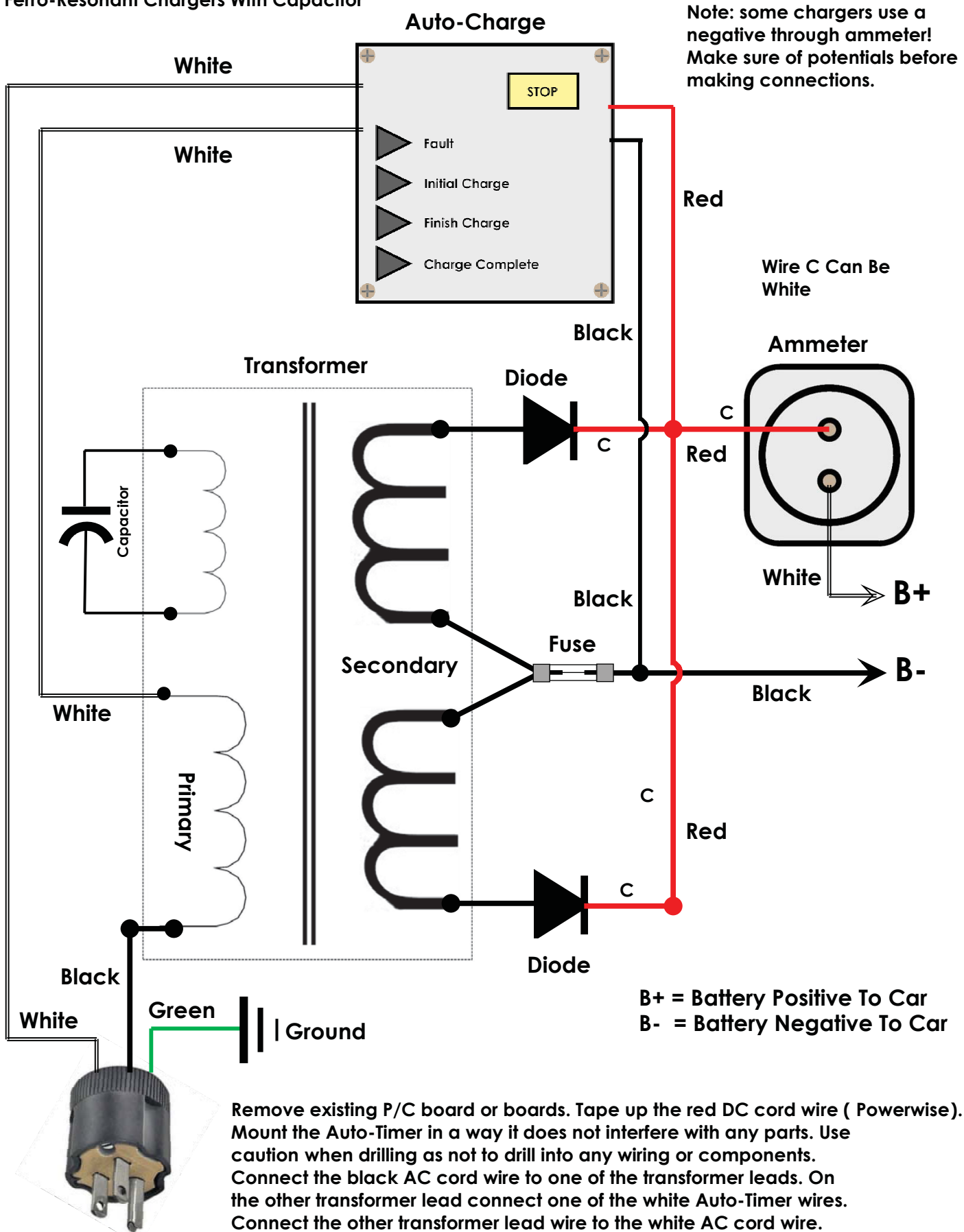
Fault detection LED indicates AC line issues or battery issues. If the battery voltage is lower than 1.4 volts per cell the charger may not turn on. On 36 volt cars the voltage cut-off is 25.5 volts. For 48 volt cars the cut-off voltage is 33.6 volts. However you may see the initial charge LED in the on position. You must confirm transformer hum and ammeter movement. So the initial LED light being on does not indicate the charger is on.

The relay contact inside the AT are rated at 10 amps and covers most chargers. Should you have a higher AC rating than 10 amps add another relay to the system that will carry the load and use the AT relay to activate extra relay.

If using the AT for a Club Car 48 volt system you must remove the on-board computer out of the system. See page 4 for wiring instructions.



Ferro-Resonant Chargers With Capacitor



Note: some chargers use a negative through ammeter! Make sure of potentials before making connections.

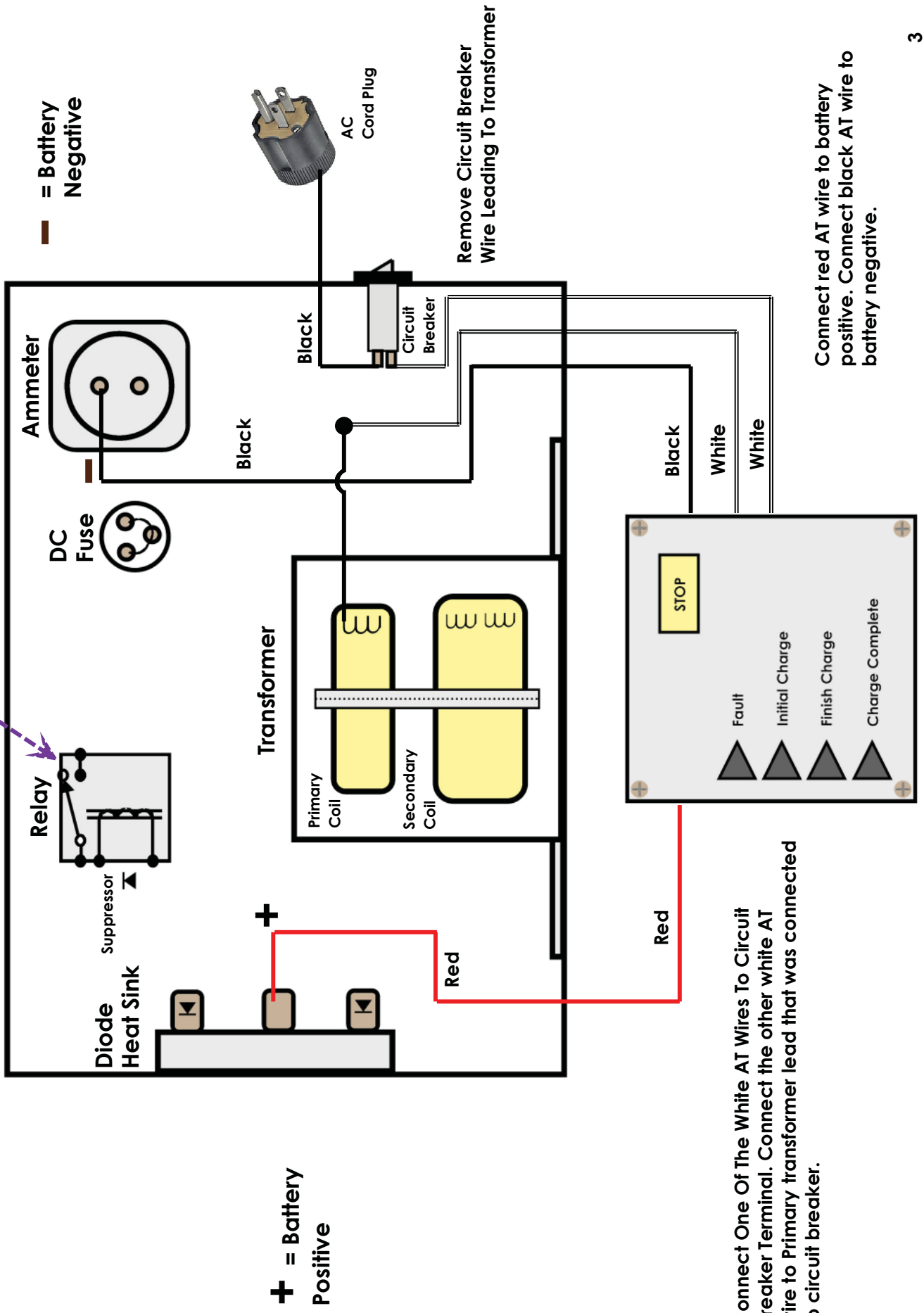
B+ = Battery Positive To Car
B- = Battery Negative To Car

Remove existing P/C board or boards. Tape up the red DC cord wire (Powerwise). Mount the Auto-Timer in a way it does not interfere with any parts. Use caution when drilling as not to drill into any wiring or components. Connect the black AC cord wire to one of the transformer leads. On the other transformer lead connect one of the white Auto-Timer wires. Connect the other transformer lead wire to the white AC cord wire.

AC Line Connector

Connect the red Auto-Timer wire to battery positive.
Connect the black Auto-Timer wire to battery negative.

Club Car Power Drive Charger



Remove All Wires From Relay
(Relay Is Not Used)

— = Battery Negative

+ = Battery Positive

Remove Circuit Breaker Wire Leading To Transformer

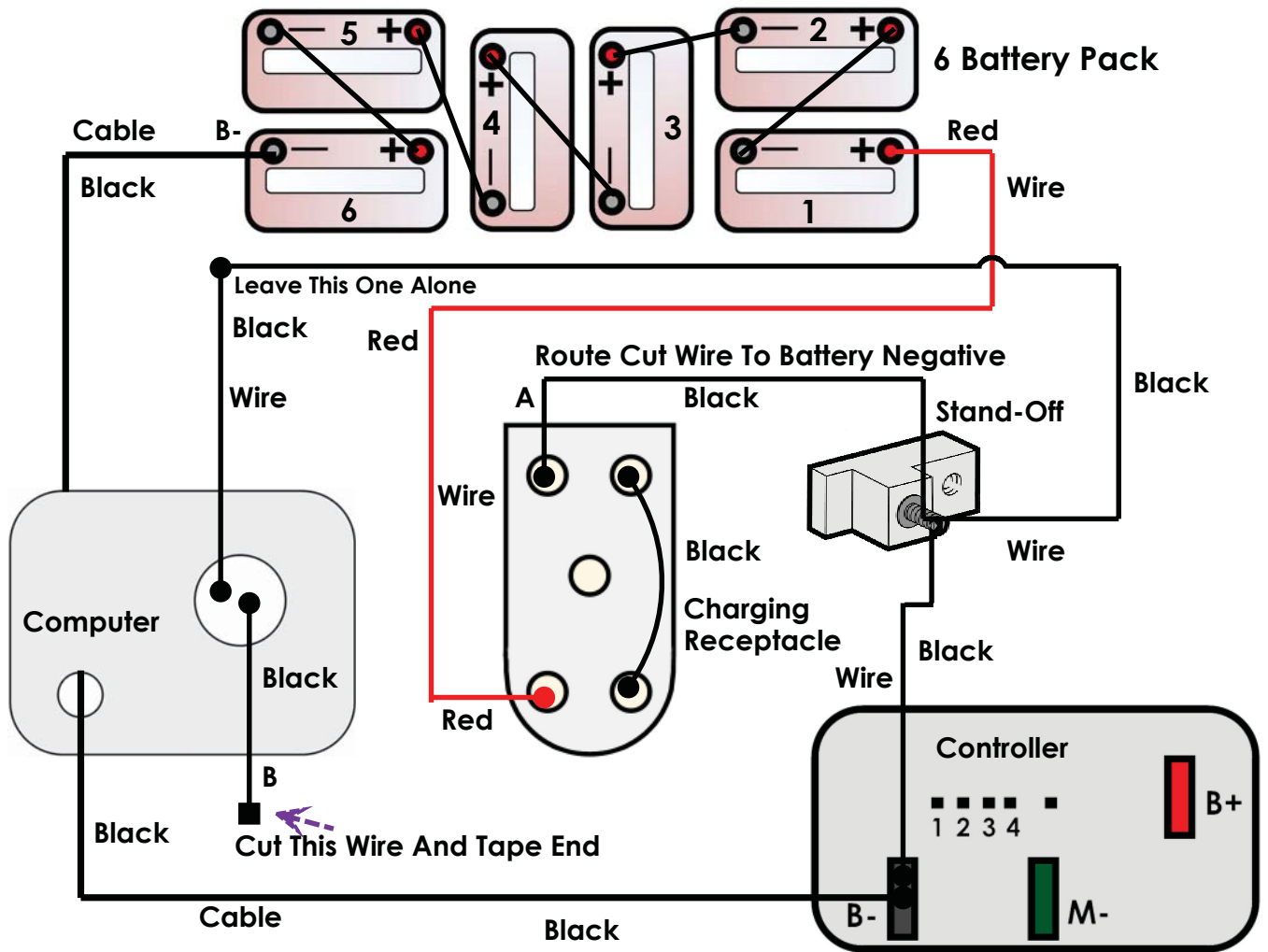
Connect One Of The White AT Wires To Circuit Breaker Terminal. Connect the other white AT wire to Primary transformer lead that was connected to circuit breaker.

Connect red AT wire to battery positive. Connect black AT wire to battery negative.

Charger Computer By-Pass

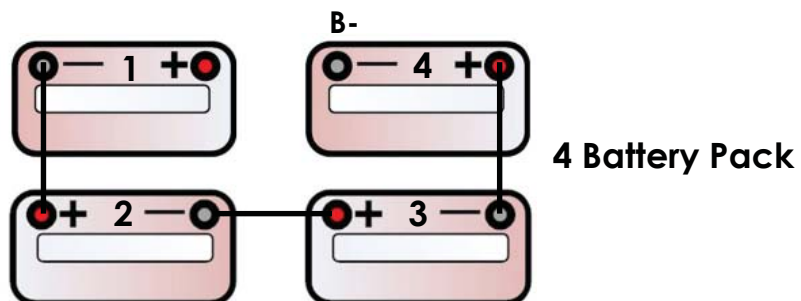
Toward Front Of Car

Club Car 48 Volt Systems



On the back of the charging receptacle locate the long black 12 gauge wire (A) that routes to the computer. Cut this wire as close to the computer as possible and tape up bare end (B) going into computer. Install a 5/16" ring terminal on the long 12 gauge receptacle wire and route to either B- on battery pack main negative terminal. Or route the wire to B- on controller or negative Stand-Off terminal (if used).

Toward Front Of Car



For Club Car models with defective computer you will need to do the following. Notice on page 4 how the 12 gauge computer wire is cut and routed to direct battery negative. This procedure is used only if you are leaving the computer intact and the car is still in running condition. However, if the computer is defective and stuck in the lock-out mode you will need to change some controller in-put wiring or solenoid wiring also.

For DS model Series Cars:

Remove yellow solenoid activation wire and tape the end up. Make up a new black 18/16 gauge wire and route the wire to battery negative, use either B- stand-off, B- on the controller or negative at the charging receptacle. Connect the other end to vacated solenoid terminal.

For Regenerative System Power Drive Plus 1:

Connect a negative 18/16 gauge wire to the bullet connector going into the Z plug pin number 12 yellow wire.

For Regenerative System Power Drive Plus 2:

Connect yellow, blue and white wires together on the car side of the on-board computer harness. These are positive connections.

For IQ Systems:

Cut light blue wire at pin number 5 on the 16 pin connector. Connect a 18/16 gauge wire from the light blue wire going into the 16 pin connector and route the other end to battery positive at solenoid large terminal (from battery number one) or the back of charging receptacle red positive terminal. Tape the light blue wire going to the On-Board computer.