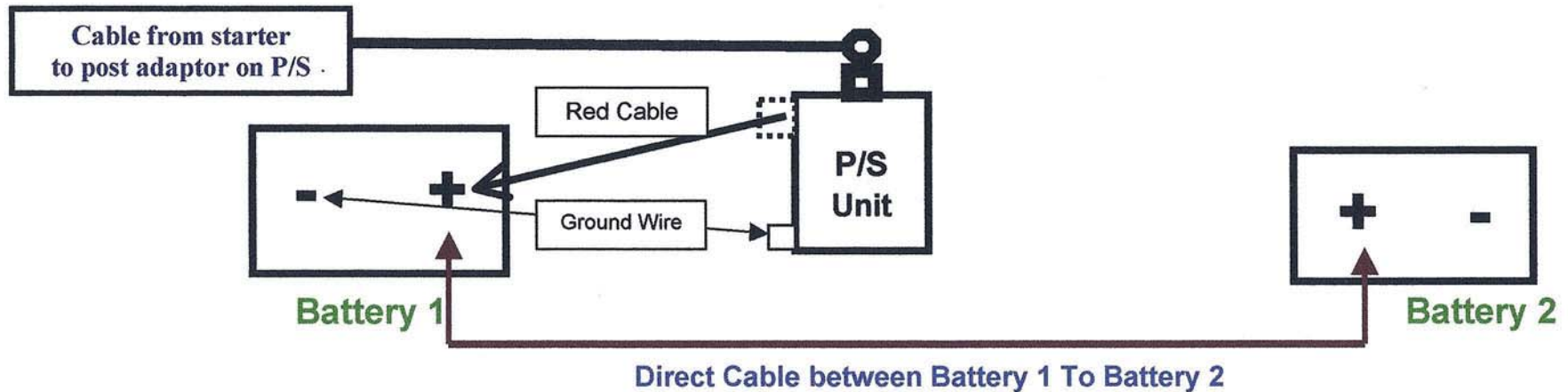


Parallel Dual Battery Installation

On dual battery vehicles, only one *PriorityStart!* unit is required. Please make sure the batteries are in "Parallel" set-up – i.e., two 12-volt batteries cabled together from positive to positive, and negative to negative.

Important Note: The cable connecting both batteries ("Direct Cable between Battery 1 To Battery 2" - as shown below) must remain separate from the cable deriving from the starter. If one cable is used, it must be separated into two. The cable (connecting both batteries) should not be moved to the top post of the P/S! It should stay on the actual posts of both batteries.

See Diagram below:



The P/S can handle up to 1000 starting amps. (Amps that the *starter* draws).

Very important to follow this note: Individual accessories that have separate wiring would *also* be moved to the top of the P/S. Remember the P/S is now monitoring everything through the cable and so would pick up everything attached to it.

IMPORTANT - READ BEFORE INSTALLING

Recommended Test Procedure For The *PriorityStart!*

1. Follow instructions in owner's manual to install. *PriorityStart!* must be installed on a *fully* charged battery, preferably on a *NEW fully-charged* battery.
A battery drained to a "dead" condition once has already lost half its service life.
2. Use a Voltmeter to test. With ignition *key* out of ignition, turn headlights on and let lights or running-lights (*on marine unit*) take voltage down to disconnect threshold of 11.7 volts.
(DO NOT use other accessories that could mimic "engine run" to "quick" discharge battery [see NOTE below] like power-supplies, engine fans, battery chargers, AC equipment, etc.)
3. Once battery voltage drops below 11.7 volts (23.6 volts on 24-volt unit), the unit will automatically disconnect in about one minute (*4.5 minutes on Mobility unit*).
4. After the unit disconnects, wait one full minute before attempting to reconnect.
5. To reconnect:
 - (a) operate headlight switch or running lights (*on marine unit*) or
 - (b) step on the brake pedal or
 - (c) try switching on any other electrical device or
 - (d) see section *PriorityStart!* will not reconnect

Any load transient of 0.2mv (*millivolts*) will trigger *PriorityStart!* to reconnect automatically.
The new Power-LED (*On/Off indicator*) will turn GREEN when *PriorityStart!* is connected.

NOTE *PriorityStart!* is designed to provide battery protection when engine is *NOT* running (*ignition switch in off position*). As a safety feature, by sensing electrical "noise" (30 millivolts) created by fuel injectors, fuel pumps, fan motors, etc., it will *NOT* disconnect the vehicle. Thus if a vehicle alternator or alternator-belt fails, the "engine run" circuitry recognizes the condition and prevents disconnection at the 11.7 volt threshold, allowing the vehicle to continue on the reserve capacity of the battery.

Also note: according to The Battery Council International, "even when the engine is running, if the battery voltage drops below 9 volts, the engine is at risk of stalling". This condition has nothing to do with the proper operation of *PriorityStart!* and is created by too-heavy a drain on the operating battery/alternator or a marginal battery.

PriorityStart! now has a Power-LED indicator. Any load that takes battery voltage to 11.7 volts (23.6 volts on 24-volt unit) when the key is off will be automatically disconnected and the LED will turn RED. To reconnect, read point (5) above. *PriorityStart!* has an improved computer microprocessor, a stronger-designed gear system and a new surge-protection circuit to prevent electrical spikes from potentially damaging the vehicle's electrical system.

PriorityStart! cannot monitor what is not attached to it.

***PriorityStart!* Stops Dead Batteries!**

The below illustration shows how electrical accessories must be installed.



Installation Questions

VERY IMPORTANT: Make sure you have completed the provided "testing procedures"

➤ There is a noise coming from the *PriorityStart!* is this normal? YES

The *PriorityStart!* is an electromechanical system. Inside is an innovative microprocessor and a ten-gear drive system with a by-directional motor that operates the gears. The unit is basically an automatic voltage disconnect/reconnect switch that constantly monitors battery voltage when the key is off.

➤ The *PriorityStart!* did not disconnect while following Testing Procedures

Circuits within the *PriorityStart!* could be recognizing a condition being created by an after-market electrical accessory. There is a special "engine run" circuit (*a safety feature*) inside the system that keeps the *PriorityStart!* from disconnecting a battery on a running vehicle. It will NOT disconnect the battery when the engine is running even though the battery voltage-level drops below the factory-set safe threshold of 11.7 volts (*23.6 volts on the 24-volt unit*). When testing the unit, use *only* the headlights to draw-down the battery. (*High beams optional*).

➤ The *PriorityStart!* will not reconnect

The *PriorityStart!* must have a direct load-draw (or change) in order to reconnect. In some vehicles, turning the key in the ignition is not enough for the unit to reconnect. The unit requires at least a 0.2mv (*millivolt*) electrical load-change in order to reconnect. A decal included with the unit has instructions on either pushing your foot on the brake pedal or operating the headlight switch (*running lights on Marine *PriorityStart!**).

Sometimes, an electrical relay or other component wiring may prevent the headlights, running lights or brake-pedal from providing a "direct load draw" - thus not reconnecting the *PriorityStart!* unit. If these devices do not reconnect the unit, there are other options. You may try the power seats (*driver and/or passenger seat*), spotlights, cigarette lighter, or any other electrical device wired directly to the *PriorityStart!* If, despite all attempts, you still cannot find any electrical accessory on your vehicle that will automatically reconnect the unit, the *PriorityStart!* has an optional override feature integrated into the microprocessor that provides a "reset" capability by removing "momentarily" the ground wire, and reconnecting it will trigger a reconnection or an ON-(OFF) momentary, 1.5A switch could be wired between the ground wire and negative cable as a redundant means of reconnection under the dash.

Additional Questions

➤ Is the *PriorityStart!* meant to protect batteries on vehicles in long-term storage?

No. We recommend that the vehicle be started every 60 - 90 days and run for at least 15 minutes. A battery can still discharge on its own if it is left for long periods of time. The *PriorityStart!* will still disconnect at the appropriate threshold - even in this situation - but the battery voltage can continue to drop on its own leaving too little power to start the engine.

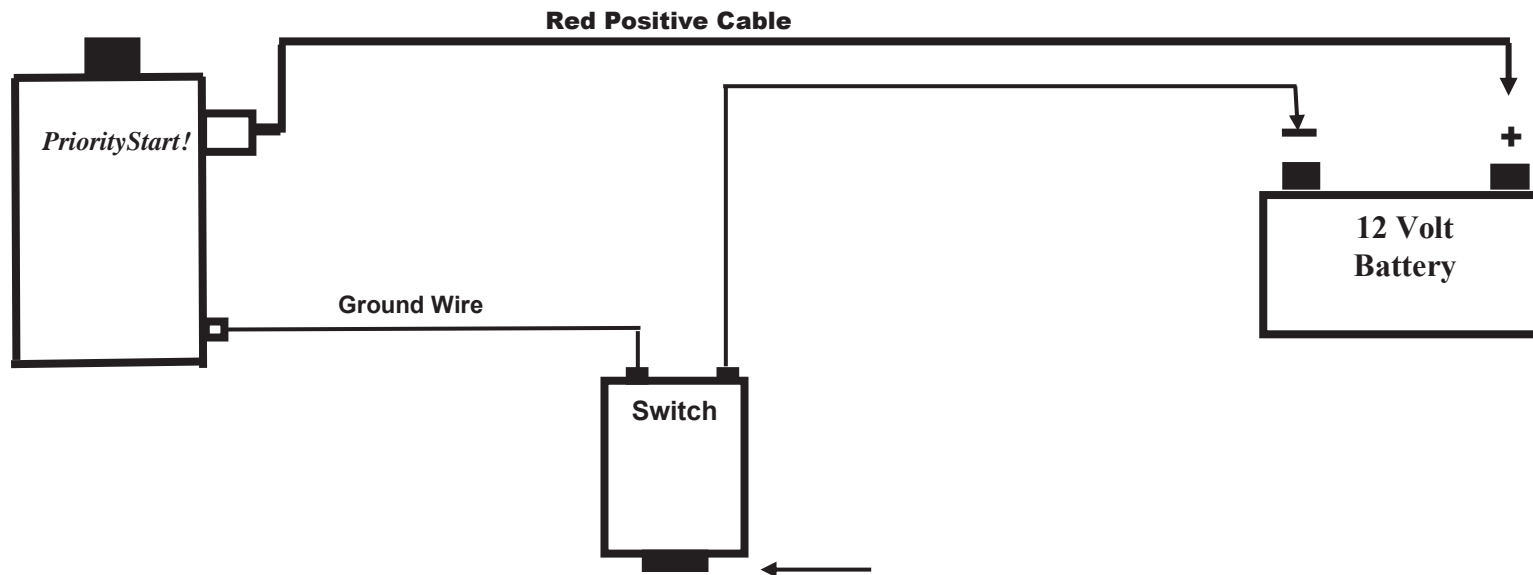
➤ What if I have continuous high-amperage accessories installed?

The *PriorityStart!* is not meant to be used with high-amp-drawing accessories running continuously for an extended period of time (*e.g. a lift-gate or a winch*). They should be wired directly to the battery following the least path of resistance. Most accessories, however, can be wired directly to the unit (see NOTICE on front).

External Switch Installation

The *PriorityStart!* is being used as “**standard equipment**” by many firms by “pre-loading” the device on new or used vehicles or at the time of servicing, giving the vehicle automatic starting protection. The below schematic is designed to show how an momentary ON (OFF) external switch can be installed in the drivers cab or other convenient location as a means to reconnect in “keyless entry” applications or as a “manual reset” feature. Any load greater than 0.2 mV (millivolts) automatically reconnects the system.

The optional external switch can be connected in line with the ground wire. Pushing the switch button creates a load change, which reconnects the system.



- NOTE:** 1. Engine should be turned off and key is in off position before operating the switch.
2. Pushbutton Switch: Rated 3A at 125VAC, 1A at 250VAC ON (OFF)

FOR YOUR INFORMATION. IF YOUR FLEET VEHICLE DOESN'T HAVE THE ABILITY TO RECONNECT WITH THE HEADLIGHTS, OR BRAKE LIGHTS, PLEASE READ THE BELOW AS AN ADDITIONAL MEANS OF RECONNECTION. I

- The ***PriorityStart!*** must have a direct load-draw (or change) in order to reconnect. In some vehicles, turning the key in the ignition is not enough for the unit to reconnect. The unit requires at least a 0.2mv (*millivolt*) electrical load-change in order to reconnect. A decal included with the unit has instructions on either pushing your foot on the brake pedal or operating the headlight switch (*running lights on Marine PriorityStart!*).

Sometimes, an electrical relay or other component wiring may prevent the headlights, running lights or brake-pedal from providing a "direct load draw" - thus not reconnecting the ***PriorityStart!*** unit. If these devices do not reconnect the unit, there are other options. You may try the power seats (*driver and/or passenger seat*), spotlights, cigarette lighter, or ***any*** other electrical device wired directly to the ***PriorityStart!*** If, despite all attempts, you still cannot find any electrical accessory on your vehicle that will automatically reconnect the unit, the ***PriorityStart!*** has an optional override feature integrated into the microprocessor that provides a "reset" capability by removing "momentarily" the ground wire, and reconnecting it triggers a reconnection. A 1.5A switch (see schematic) could be wired between the ground wire and negative cable as a redundant means of reconnection under the dash allowing the driver to simply push the switch to reconnect.