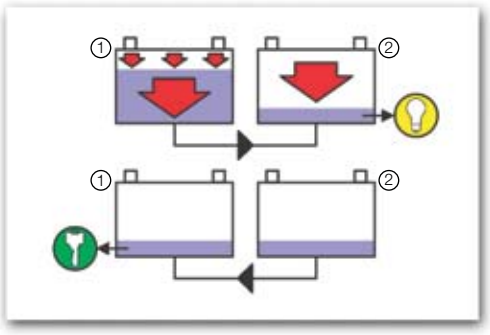
Multi-Battery Isolators

Sure Power Multi-Battery Isolators

- Eliminate multi-battery drain when two or more battery banks are in a charging system.
- Perform as well or better than existing factory installed components.
- Designed to exceed OEM specifications.
- Solid-State Electronics... Isolates each battery circuit and allows each battery to discharge and charge according to its own needs.
- The original, not an imitation! The Battery Isolator was invented by Sure Power in 1959.
- More efficient and reliable than mechanical or solenoid systems.
- The most comprehensive line of Battery Isolators on the market. Isolators are available for most application needs.

Why You Need to Isolate Your Batteries

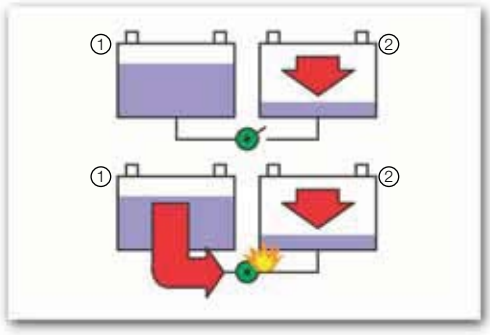
Many vehicles and other types of equipment have multiple batteries: one to start the engine and others to power accessories. To understand the problem of multi-battery drain and how a Sure Power Battery Isolator prevents it, think of electricity as water. Electrical current is equal to the flow of water and voltage is equal to the pressure. The alternator pumps current (water) into the batteries (storage tanks). The current then flows through the wires (pipes) to the accessories. It is important to think of batteries as storage tanks. If a fully charged battery is connected directly parallel with a discharged or empty battery, the voltage pressure in the full battery will force its current into the empty battery until the current stored in both batteries reaches a common level. The discharged battery will always rob power from a charged battery. So, no matter how many batteries you have on your vehicle, the accessories connected to one will draw power from the other batteries in the circuit. This is the problem of multi-battery drain. And if it is allowed to continue unchecked, it can leave you stuck with dead batteries and an engine that will not start... all when you least expect it.



Accessories connected to battery #2 rob power from battery #1, your starting battery, leaving you with two dead batteries when you least expect it.

Solenoids

One of the "so-called" solutions for multi-battery drain is nothing more than a solenoid; a switch that disconnects batteries one from another. With a solenoid, there is no multi-battery drain while the batteries are disconnected. But, the second the solenoid reconnects the batteries, the drained battery robs power from the starting battery. That isn't all that happens. This sudden,violent transfer of energy from one battery to another has been known to damage batteries or shorten their life, overheat wires and connections, and worst of all, cause fires. The Solenoid Is No Solution For Multi-battery Drain!

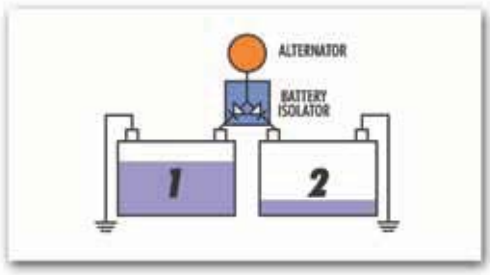


Solenoids don't prevent multi-battery drain, only delay it. In fact, the current surge that occurs when the batteries are reconnected has been known to cause major electrical system damage.

The Solenoid Is Not A Substitute For A Sure Power Battery Isolator

The Solution

To eliminate the multi-battery drain problem, a Sure Power Isolator acts as a check valve between the batteries, preventing current from flowing from one battery to another. Each battery is isolated and acts as an independent power source. So no matter how drained your accessory batteries become, they will never drain power from the battery you're depending on to start your engine. When the current is used from battery #2, the check valve (diode) stops current flow from battery #1. When the alternator is charging, current can only flow in one direction, from the alternator to the batteries. Each battery then determines the amount of current which flows into it by its own state of charge based on the voltage regulator setting. With this system, the alternator is protected, the batteries are protected and your family or passengers are protected. The balanced circuit electronic Isolator is absolutely the only way that proper isolation and control can be accomplished, solving every multi-battery problem.



A Battery Isolator acts as a check valve (through two diode legs), one on each line. Both batteries receive current from the alternator and the voltage will equalize throughout the system while the alternator is in operation.

Engineering Excellence

An Isolator is a simple and safe device. But, if it isn't properly engineered, it can fail and cause the entire electrical system to also fail. Sure Power Isolators are engineered with a SAFETY MARGIN competitor models cannot match. From the quality heat sink to the finest electrical components and materials, Sure Power enables you to install the best!

The Original

Sure Power Industries invented and has been producing Isolators since 1959. We build the finest isolator products on the market for 6 through 48 volt systems, with one or two charging systems, 2 or 3 battery banks, and current capacities of 25 through 350 amps. Our Isolators are standard equipment on many boats, ships, RVs, trucks, police, fire, emergency vehicles, industrial equipment and military vehicles.

Multi-Battery Isolator Application Guide

	MODEL	CURRENT	INPUT	OUTPUT
GROUP 1	122	25A	1	2
	702	70A	1	2
	703	70A	1	3
	704	70A	1	4
	2702	70A	2	2
	2703	70A	2	3
	952	95A	1	2
	1202	120A	1	2
	1203	120A	1	3
	3202	120A	2	2
	3203	120A	2	3
	1302	130A	1	2
	1602	160A	1	2
	1603	160A	1	3
	2002	200A	1	2
	2402	240A	1	2
	2403	240A	1	3
	3002	300A	1	2
	3003	300A	1	3
	3303	95/160A	2	3
	3603	120/160A	2	3
	31822	160A	1	2
	31922	240A	1	2
GROUP 2	9523A	95A	1	2
	12023A	120A	1	2
	12033A	120A	1	3
	13023A	130A	1	2
	13033A	130A	1	3
	16023A	160A	1	2
	16033A	160A	1	3
	24023A	240A	1	2
	32033A	120A	2	3
GROUP 3	2703R	70A	2	3
	3203R	120A	2	3
	952R	95A	1	2
	702R	70A	1	2
GROUP 4	If the alternator is not compatible with battery isolators a Battery Separator would be the next alternative. Alternators with internal voltage sensing, e.g. some Mitsubishi and Hitachi, or single wire self-exciting Delco/Delphi alternators, some Honda's and some selected imports.			
SPECIAL APPLICATIONS	31322	60A	1	2
	3152	350A	1	2
	122P	25A	1	2
	702P	70A	1	2
	1602P	160A	1	2
	31622P	160A	1	2
	92061	300/160A	1	2

COOPER Bussmann

The Original and Still the Best

VEHICLE APPLICATIONS

1	**General Motors (Delcotron/Delphi)**	Except Delcotron/Delphi CS Series alternators (CS used on most 1985 and newer GM vehicles)
	Ford	Up to 1998
	Chrysler	All models, all years including Nippondenso externally regulated alternators
	Jeep	Equipped with Nippondenso externally regulated alternators
	Japanese Imports	With alternators using external voltage regulator or external sensing
	Motorola	Load Handler Series or 8EM Remote Sense Series

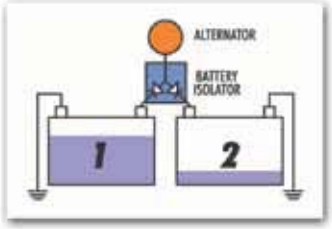
2	**General Motors (Delcotron/Delphi)**	Equipped with Delcotron/Delphi CS series alternators (most 1985-1993) or CS 130-D Series alternators (most 1993 and newer)
	Jeep	Vehicles equipped with Delcotron/Delphi CS Series alternator (most 1985-1980)
	Toyota, Honda, & Some Imports	1985 and newer equipped with Nippondenso alternator with internal regulators or alternators with an “S” (sense) terminal
	Ford	Many 1998 and newer

3	**Motorola**	Other than Load Handler Series
	Bosch	Requiring regulator sensing
	Many European Style Alternators	Requiring regulator sensing

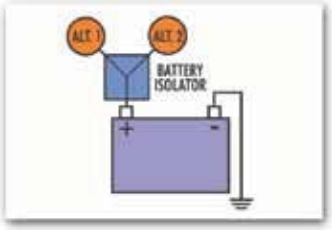
4 **2005 and newer General Motors applications using the Delphi alternators (may also be labeled Bosch) with two pin terminal connectors will not work with Battery Isolators: use Battery Separator. NOTE: Dodge Sprinter classified under Group 4**

Schottky Isolator ISO/Start

Positive ground isolators can be used as charging source combiners



Typical Isolator Application



Typical Combiner Application

Go to www.surepower.com for application and installation instructions