

Cole Facts

IMPORTANT
PRODUCT
INFORMATION

Battery Isolators



Cole Hersee Battery Isolators are important safeguards for multiple circuit battery electrical systems.

Many DC electrical systems have more than one battery connected to one or two alternators. The most common system consists of two batteries and one alternator. This type of system can be found in:

Ambulances
Fire Trucks
Police and Emergency Vehicles
Buses
Motor homes and Trailers

Boats
Tow Trucks
Vans & Service Vehicles
Snow Plows
Salt & Sand Spreaders

How a typical system operates.

When two batteries supplying separate circuits are connected to a single alternator, the primary battery is usually connected to the engine starting system with the auxiliary battery connected to other electrically powered equipment.

The auxiliary equipment could be emergency lights, refrigeration, a motor home or trailer electrical system, pumps, lifts or life support equipment in ambulances.

When the engine and alternator are operating, there is enough power to supply the electrical equipment and keep both batteries charged. When the engine and alternator are not operating, the auxiliary battery is supplying the power to operate the equipment. But, since the batteries are connected, the primary battery is being drained as the auxiliary battery uses its charge. The batteries tend to act like fluid reservoirs, keeping an equal charge level. As a result, the primary battery could drain to the point where it would not start the engine when required.



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Cole Hersee Battery Isolators

Why a battery isolator should be used.

A battery isolator is an electronic device that solves the problem of the primary battery being drained by the auxiliary battery. The isolator places diodes in the lines which connect each battery to the alternator. Since a diode permits current to flow in only one direction, current can flow into each battery for charging. The diode will not allow the current to flow back out of the batteries, so current from the battery with the higher charge cannot flow into the battery with the lower charge.

The battery isolator protects the charge in the primary battery so it will be able to operate the engine starting system.

When the alternator is operating, the battery isolator allows the charging current to flow into the battery with the lower charge.

Selecting a Battery Isolator.

The battery isolator is selected by its alternator rating and matched with the rating of the alternator to which it will be connected. If the ratings are not the same, select the next higher rated isolator. The isolator also has a per leg rating indicating the maximum current it can deliver to each battery system.

Cole Hersee Battery Isolator Ratings

Part No.	Alternator Rating	Per Leg Rating	Number of Legs
48080	42 amps	40 amps	2
48070	70 amps	70 amps	2
48090	90 amps	90 amps	2
48120	140 amps	150 amps	2
48160	200 amps	200 amps	2
48161	250 amps	225 amps	2

Some alternators, such as the Delcotron CS series used in GMC products, require an additional "ignition terminal" on the batter isolator to provide excitation to the alternator during starting.

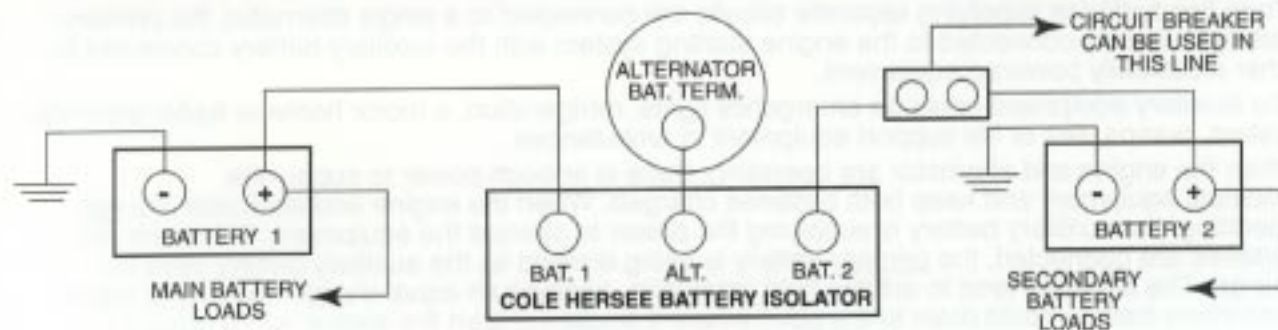
Cole Hersee Delcotron CS Battery Isolator Ratings

Part No.	Alternator Rating	Per Leg Rating	Number of Legs
48122	140 amps	150 amps	2
48092	90 amps	90 amps	2
48162	200 amps	200 amps	2

Battery isolators can be used in conjunction with Cole Hersee battery selector switches.

Installation

A battery isolator should be mounted as close as possible to the alternator and main battery. It should be mounted away from the engine and radiator and positioned in the stream of cooling air from the fan. Installation instructions are provided with each boxed Cole Hersee battery isolator.



For more information on Cole Hersee's full line of battery isolators please consult our master catalog D-272, Section T, or contact our Engineering Department.

