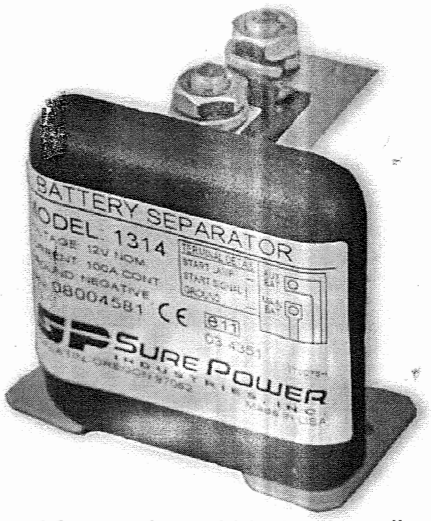
BATTERY SEPARATOR
The Smart Solenoid

MODEL 1314
This unit will activate only when the Main Battery System exceeds 13.2-13.5 volts



MODEL 1315
This unit will activate only when either the Main or Auxiliary Battery System exceeds 13.2-13.5 volts

The BATTERY SEPARATOR is designed for use in multi-battery applications as a solenoid priority system to protect the chassis charging system from excessive loading while allowing auxiliary batteries to be charged. The BATTERY SEPARATOR has two basic operational characteristics:

ASSIST IN ENGINE STARTING
When the starter is activated the BATTERY SEPARATOR compares the voltage of both battery banks. If the chassis' battery is lower than the auxiliary battery bank, the BATTERY SEPARATOR will engage allowing the auxiliary battery bank to aid in vehicle starting. The start signal must be at least three volts for the operation to occur.

PROTECT THE CHARGING SYSTEM
The BATTERY SEPARATOR monitors the battery system to determine if the batteries are being charged. When the engine or auxiliary batteries (if 1315 is used), or the engine batteries (if 1314 is used) reach 13-13.5 volts, indicating charging is taking place, the BATTERY SEPARATOR will engage, joining the two battery banks. If the drain on the charging system by the auxiliary or main battery bank reduces the system voltage below 12.4-12.9 volts, the BATTERY SEPARATOR will disconnect the battery banks from each other, thus protecting the respective battery banks from excessive drain.

A delay function has been incorporated in the control circuit to prevent the BATTERY SEPARATOR from reacting to momentary voltage fluctuations and chattering.

The priorities are to assist in engine starting, if required, and to protect the charging system from excessive power drain.

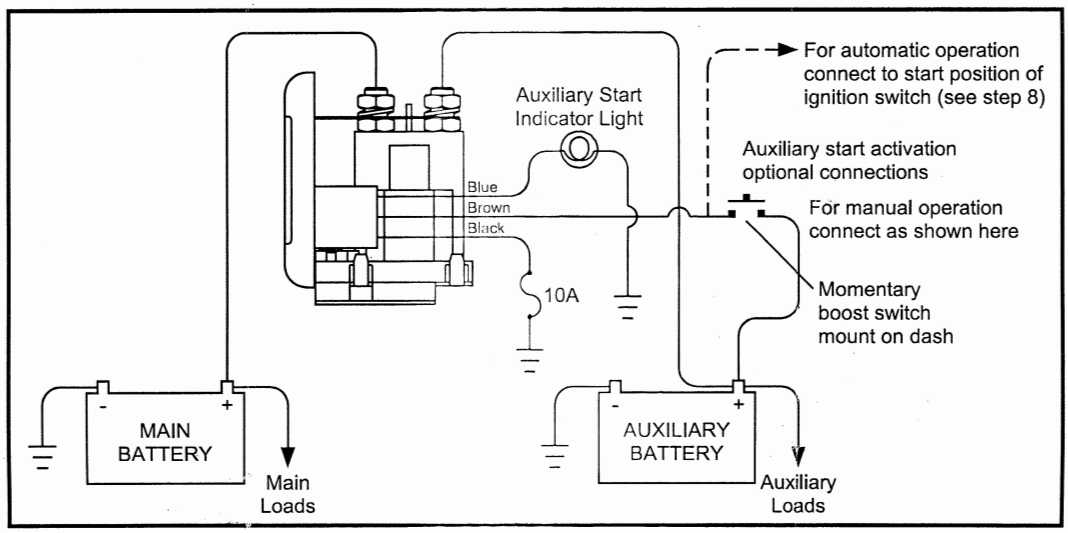
SURE POWER ONE-YEAR LIMITED WARRANTY.
Sure Power Industries, Inc. warrants each new product against factory defects in material and workmanship for one year after date of purchase. The owner will be responsible for removing from the vehicle and returning any defective unit(s), transportation costs prepaid to Sure Power Industries, Inc. factory or a factory authorized servicing distributor. Sure Power Industries, Inc. will, without charge, repair or replace at its option, unit(s) which its inspection determines to be defective. All transportation charges must be borne by the purchaser. A copy of the purchaser's receipt must be returned with the defective unit(s) in order to qualify for warranty coverage. Exclusions from this warranty are the finish and any condition(s) determined by Sure Power Industries, Inc. to have been caused by abnormal use or service. This warranty shall not apply to a Sure Power product which has been improperly installed.

There are no warranties, expressed or implied (including any implied warranties of merchantability or fitness), which extend beyond this warranty period. The loss of use of the product, loss of time, inconvenience, commercial loss or consequential damages are not covered. Sure Power Industries, Inc. reserves the right to change the design of any product without assuming any obligation to modify any product previously manufactured.

This warranty gives you specific legal rights. You may also have other rights which vary from state to state. Some states do not allow limitations on how long an implied warranty lasts. Some states do not allow the exclusion of limitation of incidental or consequential damages. Therefore, the above limitation(s) may not apply to you.

SURE POWER INDUSTRIES, INC.

BATTERY SEPARATOR INSTALLATION INSTRUCTIONS



1. Mount the Battery Separator in a convenient location near the main battery bank. Do not mount in direct engine heat.
2. Connect one end of a new wire of the proper size (see wire size chart) to the main battery terminal of the Battery Separator.
3. Connect the opposite end of a wire installed in step #2 to the main battery positive (+) terminal.
4. Connect one end of wire of proper size (see wire size chart) to the auxiliary battery terminal of the Battery Separator.
5. Connect the opposite end of the wire installed in step #4 to the auxiliary battery positive (+) terminal.
6. Make sure the auxiliary battery is properly grounded to the vehicle chassis.
7. Ground Connection. Connect a #14 gauge wire between chassis ground and the Battery Separator ground terminal. A 10A fuse should be used in this line. This may momentarily activate the Battery Separator. This is normal.
8. Auxiliary Start Connection (optional). Automatic operation. Connect a #14 gauge wire from the start position of the ignition switch to the Start terminal of the Battery Separator. Make this connection at the ignition switch. This wire should only have voltage when the ignition switch is in the start position. Note: The start signal must be able to produce at least 3V in order to provide automatic boost, see connection diagram above for manual operation option.
9. Lamp Connections (optional). Connect a #14 gauge wire from the Lamp terminal of the Battery Separator to one end of an indicator lamp (250mA maximum current draw). Connect the opposite end of the lamp to the chassis ground. This lamp will illuminate when the auxiliary start function is activated.
10. Checking the Operation: The Battery Separator should now be operational. Start the vehicle or apply a charge to the main battery. Once the main battery rises to 13.2-13.5V the Battery Separator should activate. Turn off the vehicle or remove the charge to the main battery. The Battery Separator should disconnect the auxiliary battery once the voltage on the main battery drops below 12.4-12.9V.
11. If a model 1315 is used, apply a charge to the auxiliary battery. When auxiliary voltage rises above 13.2-13.5V, the Battery Separator should activate. Remove charging unit, the Battery Separator should open when auxiliary battery is less than 12.4-12.9V.
12. The auxiliary start function should activate if the main battery voltage is lower than the auxiliary battery. The start terminal must see at least 3V to activate. The auxiliary battery must read at least 10V.

Wire Length	Wire Gauge if using Auxiliary Start	Wire Gauge if not using Auxiliary Start
Up to 10 feet	4 gauge	8 gauge
10 to 20 feet	2 gauge	6 gauge

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