Background Information.

The CS-series of alternators use 4 terminal regulators which are generally designated as Application Specific Vehicle Regulators (ASVR), with terminals designated as PLIS or PLFS. It is next to impossible to know if a PL(I)S or a PL(F)S regulator is in the unit without taking the case apart and checking the part numbers on the regulator. The ASVR and earlier regulators in the CS-Series alternators can easily be damaged by improper connection. Therefore, it is important to know the regulator type used in your alternator. Some of the regulator circuits stamp either the "I-designator" or the "F-designator" on the plastic housing, but this is not a standard. Some regulators have PLI/FS terminal markings making exact identification ambiguous. Therefore, it will still be necessary to specifically identify the regulator type to insure the correct functionality before completing the connection. The terminal designations and functions are as follows:

P-Terminal: The Pulse/Phase terminal can provide a 12V square wave to determine alternator speed, used by some Electronic Control Modules or vehicle computers. Connects to the stator. Some ICU's monitor this signal and adjust engine parameters accordingly.
This terminal is not used in this utilization of the alternator connection.

L-Terminal: This terminal is connected to the "Low" side of the warning lamp, with the lamp's "High" side being fed by the ignition circuit. This is commonly referred to as an idiot light or alternator charging light. Some regulators require a 35-ohm resistance inline with this circuit if no lamp is used otherwise alternator damage may ensue. The use of a bulb fulfills this requirement. Some applications have a resistor or resistance wire connected in parallel to the lamp in case the lamp bulb opens up and burns out. The resistor will be there to provide a path for current and voltage. This is the specification designed into all AAW Classic Update Series kits. Any resistance between 35 ohms (5-Watt resistor) and 500 ohms (0.5 Watt resistor), included in this kit, can be used safely. Therefore, it is safe to say that if the existing vehicle wiring does not include a resistance circuit through a bulb, resistor, or resistance wire, the included resistor is necessary to install.
This is the terminal that is used in this application.

F/I-terminal: This depends on the specific regulator. Some regulators have a resistor that is internally connected between the Field and Lamp terminal. This enables you to connect a 12 volt ignition source directly to this terminal. This is the common connection for a vehicle using a voltmeter gauge and no warning light. This can be used separately or in conjunction with the "L" terminal connection. If the alternator being used comes from a vehicle that only uses the I-Terminal then generally the regulator was a PLIS type and the connection may simply require a wire from an ignition source (12 volt ignition) to the alternator to operate correctly. Other regulators (PLFS type) use this terminal as an output and provide field duty cycle information to the vehicles Electronic Control Module or ECU to control the alternator. In this case, a 5Vdc reference from the Electronic Control Module or ECU is supplied on the "L" terminal. In conjunction with the output of the "F" terminal, a "closed loop" system exists between the ECU and the regulator to control alternator operation. These regulators are not interchangeable with PLIS type regulators. However, as stated above, if the alternator being used comes from a vehicle that only uses the I-Terminal then generally the connection may simply require a wire from an ignition source (12 volt ignition) to the alternator to operate correctly. For a used alternator, this is almost impossible as the original source vehicle and associated voltage regulator and connection cannot be verified. Again, for your information, PLIS type regulators use the F/I terminal as an input (as stated above) PLFS type regulators use the F/I terminal as an output. PLIS and PLFS type regulators cannot be interchanged. If you supply a 12 volt input source to the F/I terminal in the PLFS type regulator, you will ruin the regulator and void any warranty on the alternator or connection circuit. Be forewarned!!!
This terminal is not used in this utilization of the alternator connection.

S-terminal: This terminal is the "Sense" circuit and controls alternator output.
The S-terminal on the CS-130 regulator is larger than the other three terminals.
It is used to connect to a part of the wiring harness to sense voltage at that point and adjust the alternator's charging cycle.
This terminal is not used in this utilization of the alternator connection.

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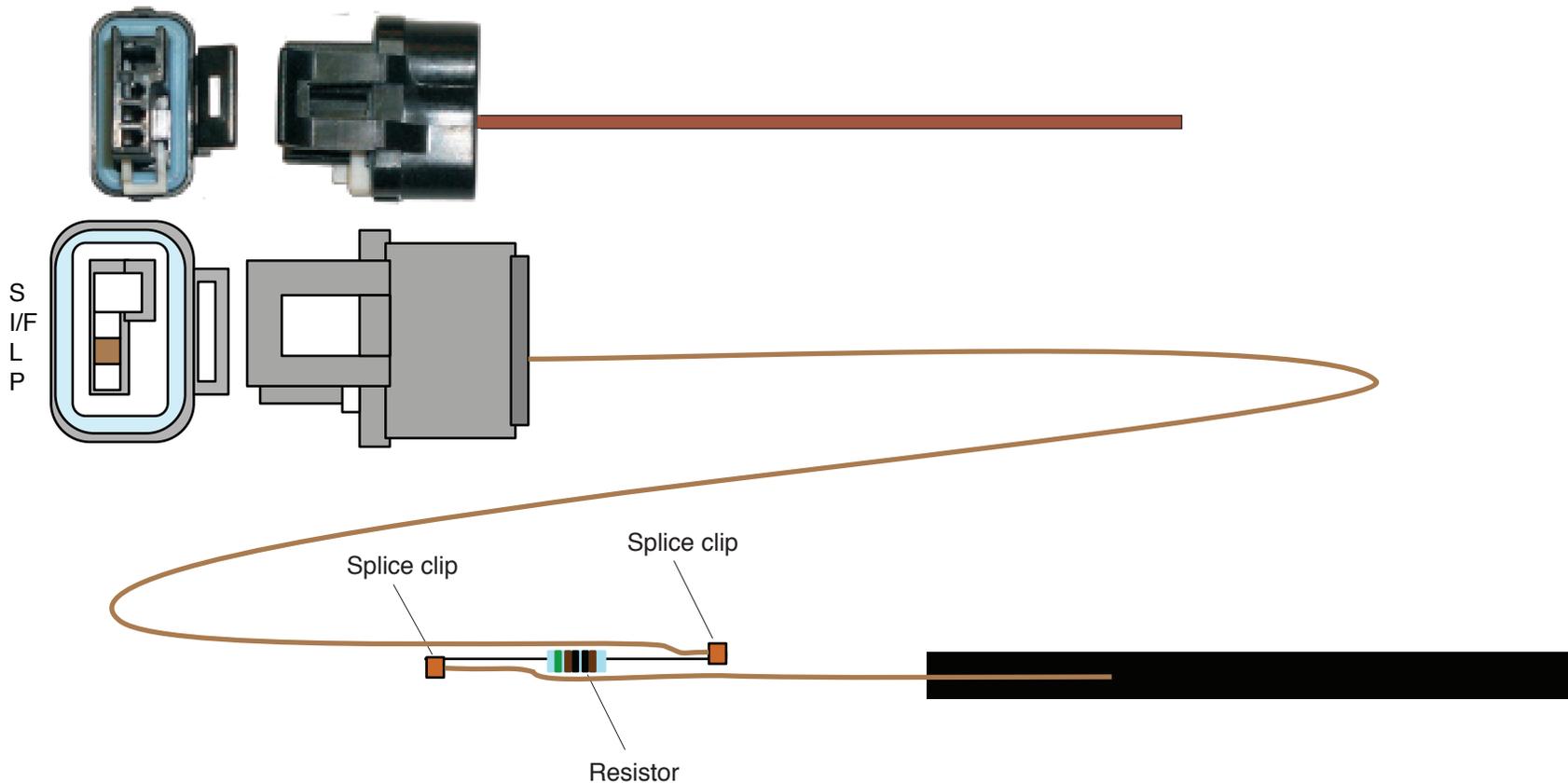
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| Alternator Adapter Kit |
| GM CS130, CS144 Alternators |
| 500539 |
| 92965414 instruction   rev 3.0   4/30/2013 |

Danchuk # 17507

S
I/F
L
P

Splice clip

Splice clip

Resistor

Install the alternator adapter as follows:

1. Disconnect the positive battery cable.
2. Disconnect the power lead at the BAT terminal on the alternator.
3. Plug the connector and brown wire into the alternator.
4. Route the bare end of the brown wire to your power distribution panel and connect to a
   12 volt "Ignition Accessory" source.
5. Select a protected point in the brown wire to place the resistor in series as shown above.
6. Cut the brown wire at this point and orient the wires around the resistor as shown. Notice that the
   brown wires overlap the resistor. This is done to provide strength and protection to the resistor
   connection once the shrink tube is installed.
7. Terminate the brown wire ends to the resistor leads using the enclosed splice clips, as shown above.
8. Solder each end of the wire and resistor lead connections.
9. Apply the shrink tube over the connection to secure the resistor in place.
10. Reconnect the power lead at the "BAT" terminal on the alternator.
11. Reconnect the positive battery cable.

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Alternator Adapter Kit

GM CS130, CS144
Alternators

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