



Service Bulletin

File in Section: 06 - Engine

Bulletin No.: 08-06-03-006C

Date: October, 2014

TECHNICAL

Subject: Engine Running with Key Off, Continuous Run – Sensing Diagnostic Module (SDM), No Communication, Service Air Bag Light Illuminated, DTCs B1440, P0381 or P0650 (Install Diode to Solenoid/Relay)

Models: 2007-2014 Chevrolet Silverado 2500-3500 Series
2007-2014 GMC Sierra 2500-3500 Series

Attention: This bulletin also applies to any of the above models that may be Middle East and Israel export vehicles.

This bulletin has been revised to add the 2014 model year.
Please discard Corporate Bulletin Number 08-06-03-006B.

Condition

Some customers may comment on the engine running for 10-15 seconds with the key off, and/or the supplemental inflatable restraint (SIR) MIL Lamp and Service Air Bag Message are illuminated.

Cause

These vehicles may be equipped with aftermarket equipment, i.e. a snow plow or a salt spreader system, that is controlled by a large solenoid or relay. When an electromechanical solenoid or relay is de-energized rapidly by a mechanical switch or semiconductor, the collapsing magnetic field produces a substantial transient voltage in its effort to disperse the stored energy and oppose the sudden change in current flow. These voltage spikes can occur at the positive terminal when the solenoid or relay is de-energized (keyed-off). If a solenoid or relay is wired onto the Run/Crank circuit of the vehicle to control aftermarket equipment, the spikes can be transmitted onto the circuit. The spikes can permanently damage the internal circuitry of the TCM and/or the SDM.

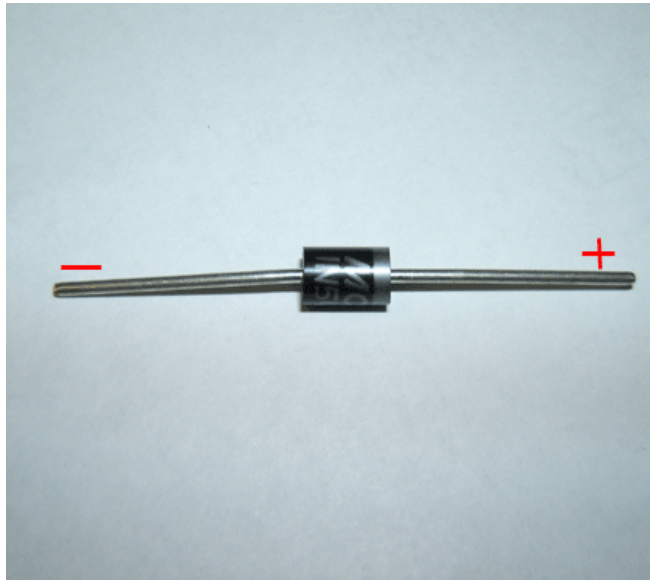
If the transmission control module (TCM) is damaged, it is possible for the TCM to pass retained accessory power onto the Run/Crank circuit keeping the engine control module (ECM) on until retained accessory power goes low.

If the sensing diagnostic module (SDM) is damaged, the SDM will not communicate, and it will illuminate the supplemental inflatable restraint (SIR) lamp and the Service Air Bag message.

Correction

Important: DO NOT replace the TCM or the SDM until the root cause of the condition has been identified to the solenoid/relay voltage spikes.

To prevent damage to any of the sensitive electronic components on the bussed circuit, the solenoid/relay **MUST** have the control circuit suppressed with a diode. The diode will prevent the voltage spikes from being transmitted onto the Run/Crank circuit.



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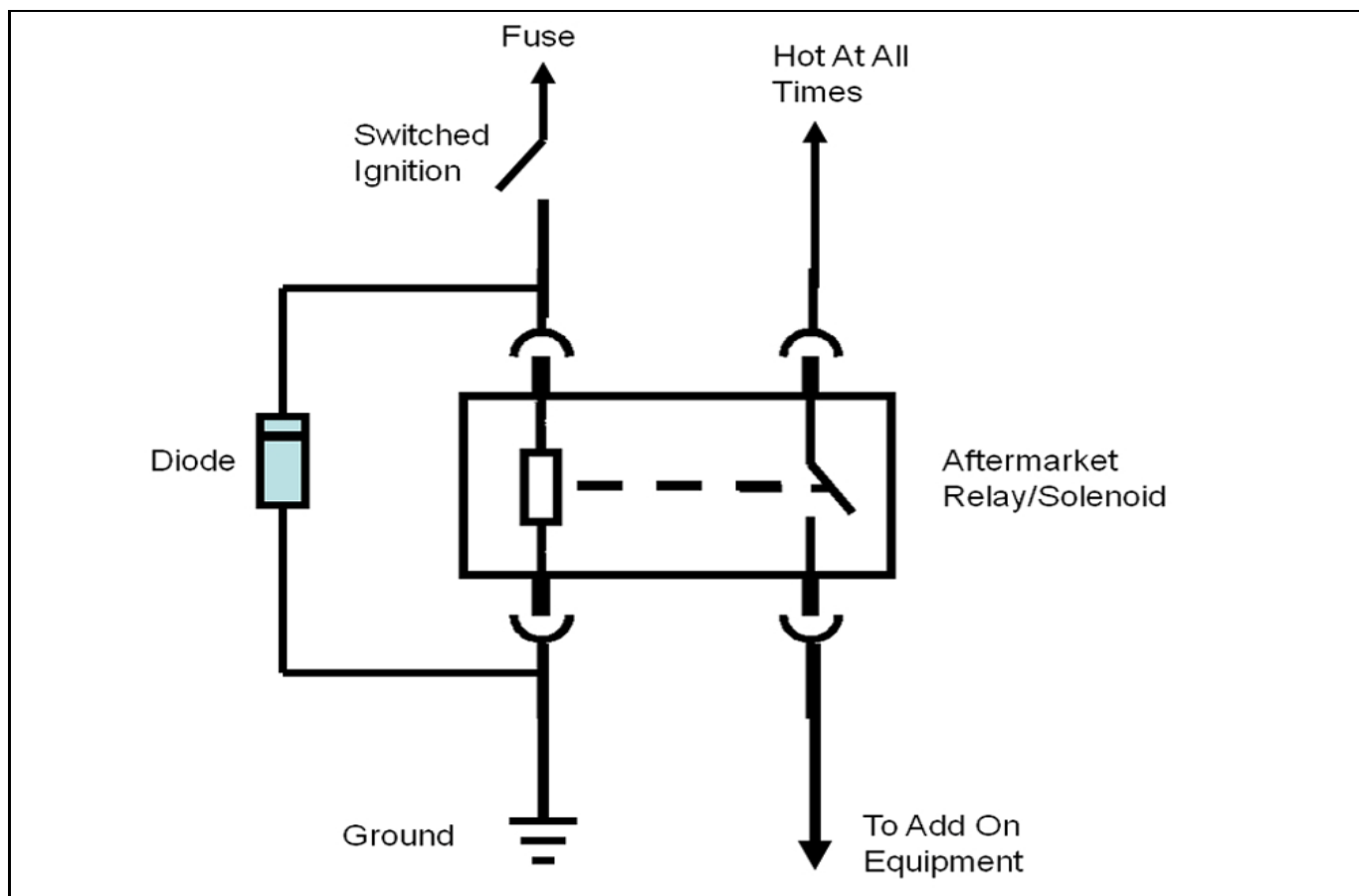
Install a diode, P/N♦12112422, across the coil of the solenoid. It is important that the striped end of the diode be connected to the positive terminal of the coil and the other end of the diode be connected to ground.



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Important: Be sure to insulate the diode with heat shrink tubing before installing as shown in the picture above.

Notice: Some solenoids/relays may only have a positive post and will get their ground through their mounting bracket. In this case, the striped end of the diode is to be connected to the positive terminal and other end should be connected to the ground of the solenoid/relay.



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Install a diode, P/N♦12112422, across the coil of the relay. It is important that the striped end of the diode be connected to the positive terminal of the coil and the other end of the diode be connected to ground. Be sure to insulate the diode with heat shrink tubing before installing.

Parts Information

| Part Number | Description | Qty |
|-------------|-------------|-----|
| 12112422 | Diode | 1 |

Warranty Information

This repair will not be covered under warranty due to the failure being caused by an aftermarket accessory.