



Technical Service Information

GM GLOBAL DIAGNOSTIC SYSTEM MODULE SWAPPING

COMPLAINT: After repairs, a technician may have a complaint of the vehicle no longer starting after swapping what appears to be an identical module from a donor source. In addition, a trouble code B3902 “Incorrect Identifier Received” is set in the Body Control Module as well several other modules. A B389A may also be set indicating an incorrect “Environment Identification” signal. Unfortunately in this example, returning the original module to the vehicle still resulted in the no start condition.

CAUSE: At the start of the 2010 model year General Motors implemented a new type of diagnostic system which includes new security protocols. It is the Global Diagnostic System (GDS) sometimes referred to as “Global A”. There are a number of modules that share the GDS system such as the ECM, TCM, BCM, HVAC, IPC, EBCM, SDM, EPS, HPCM, SCLCM. An example of this global architecture can be seen in figure 1. The amount of GDS compatible modules may vary depending on how the vehicle is equipped.

The Body Control Module is the controlling module for the GDS system. It sends an “Identifier” signal over the serial data lines to which GDS compliant modules must respond by comparing module identification to the identification originally programmed into the BCM.

If the BCM identifier is not recognized or receives an incorrect identifier from one of the other GDS compliant modules it will respond by preventing the vehicle from starting and the setting of trouble code B3902 and/or B389A.

The reason why the vehicle did not start when the original module was returned to it was because the module “locked on” to the incorrect identification which permanently renders it inoperable.

CORRECTION: Do not swap a GDS compliant module from any source with that of another. In some instances “sleeper” issues may develop which may not materialize until a later date which makes diagnosing the cause all that more difficult.

SERVICE INFORMATION:

The following is a list of vehicles that are GDS compliant:

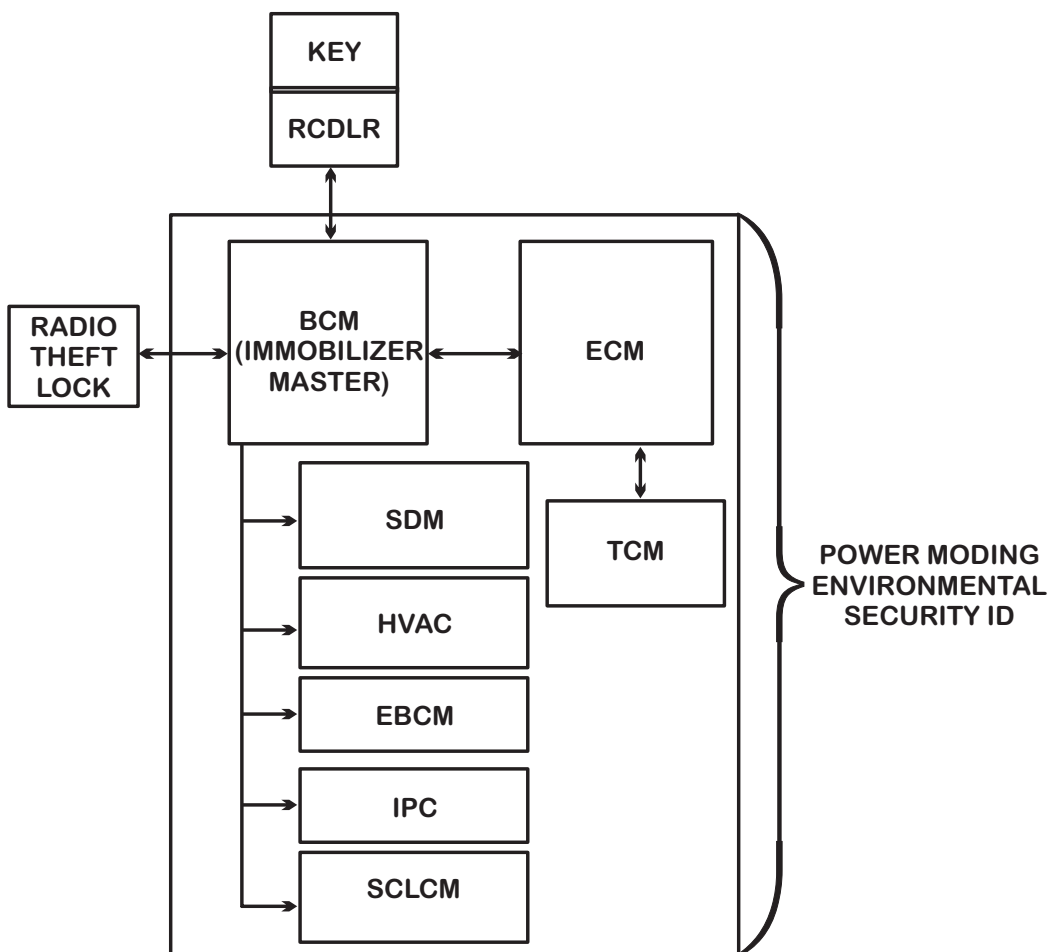
2010 - 2015 Buick LaCrosse	2013 - 2015 Chevrolet Malibu
2013 - 2015 Buick Encore	2014 - 2015 Chevrolet Corvette, Impala
2011 - 2015 Buick Regal	2014 - 2015 Chevrolet Silverado 1500
2012 - 2015 Buick Verano	2015 Chevrolet Colorado, Suburban, Tahoe
2014 - 2015 Cadillac CTS Sedan	2012 - 2015 Chevrolet Sonic
2010 - 2015 Cadillac SRX	2013 - 2015 Chevrolet Spark
2013 - 2015 Cadillac ATS, XTS	2015 Chevrolet Spark BEV
2014 - 2015 Cadillac ELR	2013 - 2015 Chevrolet Trax (Canada Only)
2015 Cadillac Escalade, DTS	2012 - 2015 Chevrolet Volt
2010 - 2015 Chevrolet Camaro	2014 - 2015 GMC Sierra 1500
2010 - 2015 Chevrolet Equinox	2015 GMC Canyon, Yukon
2011 - 2015 Chevrolet Cruze	2010 - 2015 GMC Terrain



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MODULE SWAPPING



RCDLR = Remote Control Door Lock Receiver
BCM = Body Control Module
ECM = Engine Control Module
SDM = Sensing & Diagnostic Module
HVAC = Heating, Ventilation & Air Conditioning Module
EBCM = Electronic Brake Control Module
IPC = Instrument Panel Control Module
SCLCM = Steering Column Lock Control Module

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Figure 1