

**System DOs and DON'Ts:**

**Do:**

- Ensure all intended engine/vehicle side connections are made before connecting ignition or battery power to the system.
- Ensure the wiring harness is secured as required, and that the routing avoids locations which can potentially damage the wiring (e.g.: sharp edges, pinch points, rotating components, etc.). Make sure any unused connectors or wiring are properly secured and protected (sealed or taped as required to avoid short circuiting).
- Ensure all engine and wiring harness grounds are clean and secure. Minimum 3/4 inch braided strap from the engine to the vehicle chassis is recommended.
- Ensure the MAF sensor is oriented correctly in the induction (it will only read correctly in the proper direction). An arrow is located on the sensor indicating correct flow direction. Verify this before welding the mounting boss, as the sensor will mount only one way in the boss.
- Ensure the MAF Sensor is mounted in the middle of a minimum 6 inch length of 4 inch diameter tube, and is a minimum of 10 inches from the throttle body.
- Ensure the fuel pressure is a constant 400 kPa (60 psi) with the engine running. This is what the control system has been developed to run.
- Ensure the fuel pump has the following flow capability: Minimum 40 gph @ 400 kPa for LS2/LS3/LS376's and 50 gph @ 400 kPa for LS7.
- Ensure battery voltage is connected using a minimum 8 gauge wire to one of the studs on the fuse block.
- Ensure that the accelerator pedal clearances meet the guidelines above.

**Don't:**

- Change or alter any wiring in the accelerator pedal or electronic throttle systems.
- Vacuum reference the fuel system, it must run constant 400 kPa (60 psi).

**System Features**

- The Fuse/Relay center contains all required fuses and relays for proper engine operation. Spare fuse and relay openings are provided for possible future customer use.
- The Fuse/Relay center includes a malfunction indicator light (MIL) which will illuminate in the event of an engine fault code. See your GM Performance Parts dealer to have this code retrieved at the diagnostic link connector in the fuse/relay center (using a Tech2 with 2006 Cadillac CTS-V configuration). Codes can also be retrieved using an aftermarket diagnostic scan tool capable of reading this configuration. Note that the MIL will illuminate when the vehicle is keyed-up - this is normal, and it will go out once the engine is started if there are no current fault codes. A redundant MIL wire is included in the bulkhead connector (see below) to allow a light to mounted inside the passenger compartment (**this is recommended**).
- A cooling fan can be controlled by the ECM. Control is set to turn on a 12 V fan at 100 Deg C (212 Deg F) coolant temperature. The fan control wire is fused/relayed and can connect directly to your Fan.
- The fuel pump is controlled by the ECM. The control wire supplies 12 V and is fused/relayed and should connect to the 12 V side of the fuel pump.
- Most GM late model LS series alternators are supported using the connection included in the harness. Refer to service information for details.
- A tachometer signal is included in the bulkhead connector (see below). This is a 2 pulse/rev output which may correspond to a 4-cylinder setup in some tachometers. Note the signal is a low voltage square wave, some older style of tachometers may need a pull-up resistor in order to read the signal - this detail is left to the user.
- An oil pressure output is included in the bulkhead connector and can be used for a pressure gauge if desired (see below for scaling). The oil pressure sensor comes already installed on the crate engine, but this connection is optional and is not used by the control system.
- A vehicle speed output is included in the bulkhead connector for use with auto-scaling speedometers. The vehicle speed sensor connector in the harness must be attached to a variable reluctance type speed sensor (typical of most late model GM automatic transmissions) for this to function. Attachment of a vehicle speed sensor is optional and not required by the ECM.