

# **SPEARTECH FUEL INJECTION SYSTEMS, INC.**

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## Wiring Notes Gen V LT with Automatic

**ORANGE (12awg)** – To full time 12-volt supply. Provides power to ECM, ALDL, and fuel pump relay.

**PINK (12awg)** – To switched 12-volt supply. Hot in key on, run, and crank. Ignition switch, etc.

**GRAY (14awg)**- To fuel pump (+) terminal. From fuel pump relay; computer controls the on/off.

**YELLOW (12awg)** – To key switch starter solenoid position, from NSS module.

**BACK-UP LIGHTS** (optional hook-up)

BROWN - Take this wire to a +12V ignition source.

LT. GREEN- To reverse light +12V input to bulb.

WHITE – Tach signal for electric tachometer. Ignore if not needed.

ORANGE – A/C compressor clutch. To freon switch or dash control. Ignore if not needed.

Note: The computer does **NOT** control A/C during a swap. This wire is a convenience wire to provide you a connector for the GM clutch only. Vintage Air's trinary switch is used for fan control when A/C is engaged.

DK GREEN- Primary cooling fan for OEM GM Fan only. Not for traditional relay.

Ignore if not needed. Dakota Digital PAC 2800 BT Fan controller recommend in lieu of this wire.

Gauge Notice: The best solution for gauges (speed, tach, water temp, oil pressure, etc.) for Gen V applications is using a gauge cluster designed to read information from the serial data stream (CANbus, OBD2 port).

**FUSES:** #1- Fuel Pump      #2- Battery      #3-O2 heaters      #4- Ignition/Injection  
(Orange)                      (Orange)                      (Brown)                      (Pink)

### Connectors

TAP SHIFT - Used in conjunction with our Tap Shift Switch Box or Floor Mounted Tap Shifter. Enables you to manually control forward drive gears of transmission (ECM/TCM reprogramming required).

GEAR INDICATOR - Used in conjunction with our gear indicator that displays current gear of transmission (P, R, N, 1-8). Available in Blue, Red, Green, or Yellow.

CRUISE – Used in conjunction with Rostra cruise module. See insert of cruise module for further details.

NEUTRAL SAFETY – Used in conjunction with supplied Speartech NSS module.

## **Gen 5 Fuel Pressure Info**

With Gen 5 setups using the "fuel pump relay setup," set your adjustable fuel pressure regulator to 72 psi.

You will need a fuel pump that has a 340 LPH or higher flow rate.

The supplied fuel pump control wire from the relay is a gray 14awg wire. Follow instructions for your specific fuel pump manufacturer to ensure that the supplied control wire is adequate. If your fuel pump manufacturer requires a heavier gauge wire to operate your fuel pump then you must install a NEW relay to operate your fuel pump.

**Option 1:** Use the supplied 14 awg gray wire to trigger your new fuel pump relay. The gray wire is +12V output when engine is running/cranking.

**Option 2:** Locate our supplied fuel pump relay and pull out the computer's control wire, Green/White. This wire is +12V output from the ECM and will engage your fuel pump relay anytime the engine is cranking/running. There is a 2 second prime period when you do the initial key-on engine off. The green/white wire will supply +12V for only 2 seconds during this initial priming period.

### **NOTE: Special Engine Connector Information**

*Some wiring harnesses are supplied with a barometric pressure sensor and oil temperature connector.*

The barometric pressure sensor is required for proper functionality. This sensor is NOT on GM crate engines by default. This sensor reads atmospheric pressure only and does NOT install into the engine's supercharger.

Barometric Pressure Sensor Part Number: **12711681**

Barometric Pressure Sensor Bracket Part Number: **12681147**

The bracket is optional and bolts to the driver side rear head of the engine. You can zip tie the sensor to the harness, make your own bracket, or purchase the OEM GM ZL1 Camaro baro bracket.

Oil Temperature: This connector is optional, and the sensor is located on the driver side of the engine by the stock oil filter location. If you change oil pans, this sensor is likely gone. You can safely ignore our connector and tuck it out of the way. It's recommended to put heat shrink over the connector. The check engine light will NOT illuminate with our tune if you don't have the oil temperature installed.

# Proper Grounding Tips

Proper Grounding: Proper grounding is critical for the correct operation of your Speartech engine control system. Failure to properly ground the system can result in anything from a no start condition, to erratic operation, to ECM/wiring harness damage. Vehicles vary in how they are grounded but you must ensure the negative battery cable, engine block, chassis/frame of vehicle, and wiring harness are all properly connected together at the ground level. Do NOT connect any ground cables to the rocker covers as these are usually isolated on LS/LT engines. The engine block and/or cylinder heads are the best places to attach ground connections. Make sure all connections are clean and tight. We have seen instances of improperly grounded systems that have resulted in all ground current going through the wiring harness and ECM, damaging both parts beyond repair. Failures like this are NOT covered under warranty!

## Gen 5 LT MAF Sensor & Tube Placement

Make sure the side of the MAF sensor with the box/diamond on it is situated closest to the throttle body. Please refer to this photo for reference. LT 6.2 MAFs work best in a 4" diameter tube.

**L83 engines work best with a 3.5" diameter tube.**

