



### Wiring Notes Gen IV LS-58X with 6L80/6L90 Transmission

**BATT. @ STARTER** – To full time 12 volt supply (positive battery post on starter, etc.)

**PINK/BLACK** – To switched 12 volt supply. Hot in key on, run, and crank. Ignition switch, etc.

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

**LT. BLUE** – Brake switch/Torque Converter Lockup– Wire must be hooked up to cold side of brake switch where it sees +12V when brakes are depressed.

*Note: If using LED brake light bulbs a 5-terminal relay must be installed, [see instructions online](#). This wire is looking for GROUND when brakes are released and an open circuit when brakes are applied.*

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

**YELLOW** – Speed signal for electric speedometer. Ignore if not needed.

**ORANGE/WHITE** – 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 relay control. Used for PCM control of fan. (Ground trigger)

*Note: This wire must be installed to a relay to control the fans; [see diagram online](#) for fan hook-up or follow fan/radiator manufacturer's instructions.*

**DK. BLUE** – Secondary cooling fan relay control. Used for PCM control of the fan. (Ground trigger)

*Note: This wire must be installed to a relay to control the fans; [see diagram online](#) for fan hook-up or follow fan/radiator manufacturer's instructions.*

<b>FUSES:</b>	#1- Battery (Orange)	#2- Injection and Ignition (Pink)	#3-O2 heaters (Brown)	#4– Fuel pump (Pink)
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#### **Connectors:**

**TAP SHIFT** - Used to control current gear of transmission. Compatible with our [Tap Shift Switch Box](#) or [Floor Mounted Shifter](#).

**GEAR INDICATOR** - Displays current gear of transmission (P, R, N, 1-6). Available [here](#).



## 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!

– Most LS 58x engines use LS3 MAF unless YOU specified otherwise when ordering, see below for MAF placement information.

Make sure you install the MAF tube with the arrow on the MAF sensor pointing towards the throttle body! The MAF sensor should be in a straight section. Coming into the MAF sensor from the filter side should be at least 4" of straight section for the MAF to get a proper reading. Installing the MAF too close a bend could cause a no-start issue.

**LS3/LS7 MAF sensors are designed for use in a  
4" tube.**

