SPEARTECH
YOUR LSX RETROFIT SPECIALIST
3574 E. State Rd. 236, Anderson IN. 46017
Ph. (765) 378-4908

# Gen 3 (24x) Engine *Manual Transmission* with Electronic Throttle Control (ETC)

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

**PINK/BLK** – 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.

PURPLE - To normally closed brake switch. Zero volts when brakes are applied. (Requires 4-terminal brake switch; AC Delco D850A or equivalent).

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

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

ORG/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.

**Cruise Hook-up (optional)**
GRAY – To on/off switch (GM stalk)
GRAY/BLACK – Resume/Accel (GM stalk)
DARK BLUE – Set/Coast (GM stalk)

*Cruise Release*
LT. BLUE – To normally open brake switch (same wire as the brake light bulb)
*Note: If using LED brake lights 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.*

*Cruise wiring is meant to be utilized with a factory GM normally open 4-wire stalk switch.*

***Manual transmissions only***
Gray – To clutch pedal position switch:
This wire must see +12V until the clutch is depressed. (Ignore if not using cruise)

Pedal to Module Harness:
The harness is equipped with a pedal to module harness that connects your factory throttle actuated controller, or TAC, to the pedal. The second connector on the TAC module connects your wiring harness to the TAC module.

Fuses: *All fuses are 20 AMP ATO style fuses*
#1 Battery – Orange
#2 Injection and Ignition – Pink
#3 O2 Heaters – Brown
#4 Fuel Pump – Pink

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# 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!