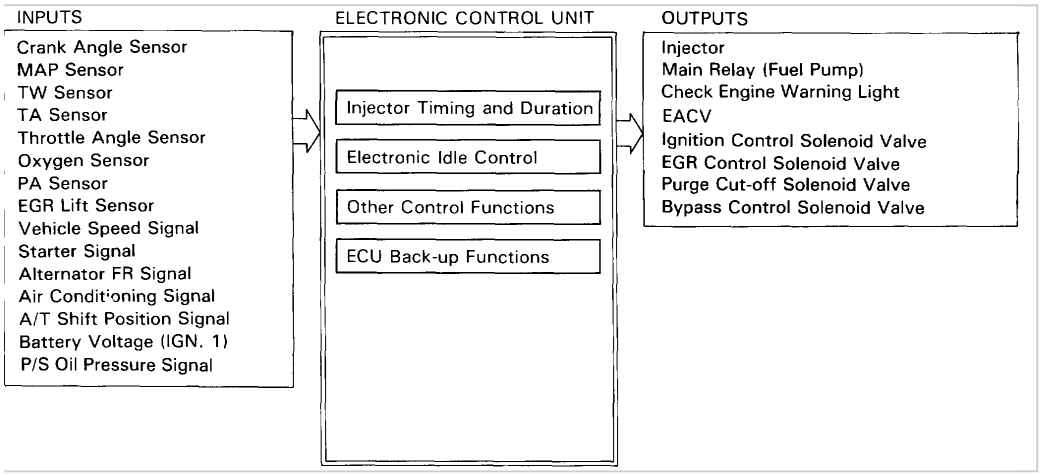
SYSTEM OPERATION



PGM-FI CONTROL SYSTEM

Injector Timing and Duration

The ECU contains memories for the basic discharge durations at various engine speeds and manifold pressures. The basic discharge duration, after being read out from the memory, is further modified by signals sent from various sensors to obtain the final discharge duration.

Electronic Idle Control

Electronic Air Control Valve (EACV)

When the engine is cold, the A/C compressor is on, the transmission is in gear (A/T only), the alternator is charging, the ECU controls current to the EACV to maintain correct idle speed.

Other Control Functions

1. Starting Control

When the engine is started, the ECU provides a rich mixture.

2. Fuel Pump Control

- When the ignition switch is initially turned on, the ECU supplies ground to the main relay which supplies current to the fuel pump for 2 seconds to pressurize the fuel system.
- When the engine is running the ECU supplies ground to the main relay which supplies current to the fuel pump.
- When the engine is not running and the ignition is on, the ECU cuts ground to the main relay which cuts current to the fuel pump.

3. Fuel Cut-off Control

- During deceleration with the throttle valve closed, current to the injectors is cut-off at speeds over 1,200 rpm, to improve fuel economy.
- Fuel cut-off action also takes place when engine speed exceeds 6,600 rpm regardless of the position of the throttle valve to protect engine from over running.

4. Ignition Control Solenoid Valve (ICSV)

The ICSV is operated by the ECU which receives signals: from the engine speed coolant temperature and manifold vacuum to provide maximum performance and fuel economy, while protecting the engine by preventing detonation from occuring.

5. EGR Control Solenoid Valve (EGRCSV)

When the EGR is required for control of oxides of nitrogen (NOx) emissions, the ECU supplies ground to the EGRCSV which supplies regulated vacuum to the EGR valve.

6. Purge Cut-off Control Solenoid Valve (PCCSV)

When the engine coolant temperature is above the set temperature of the TW sensor, the purge cut-off solenoid valve is activated by the control unit receiving signals from each sensor.