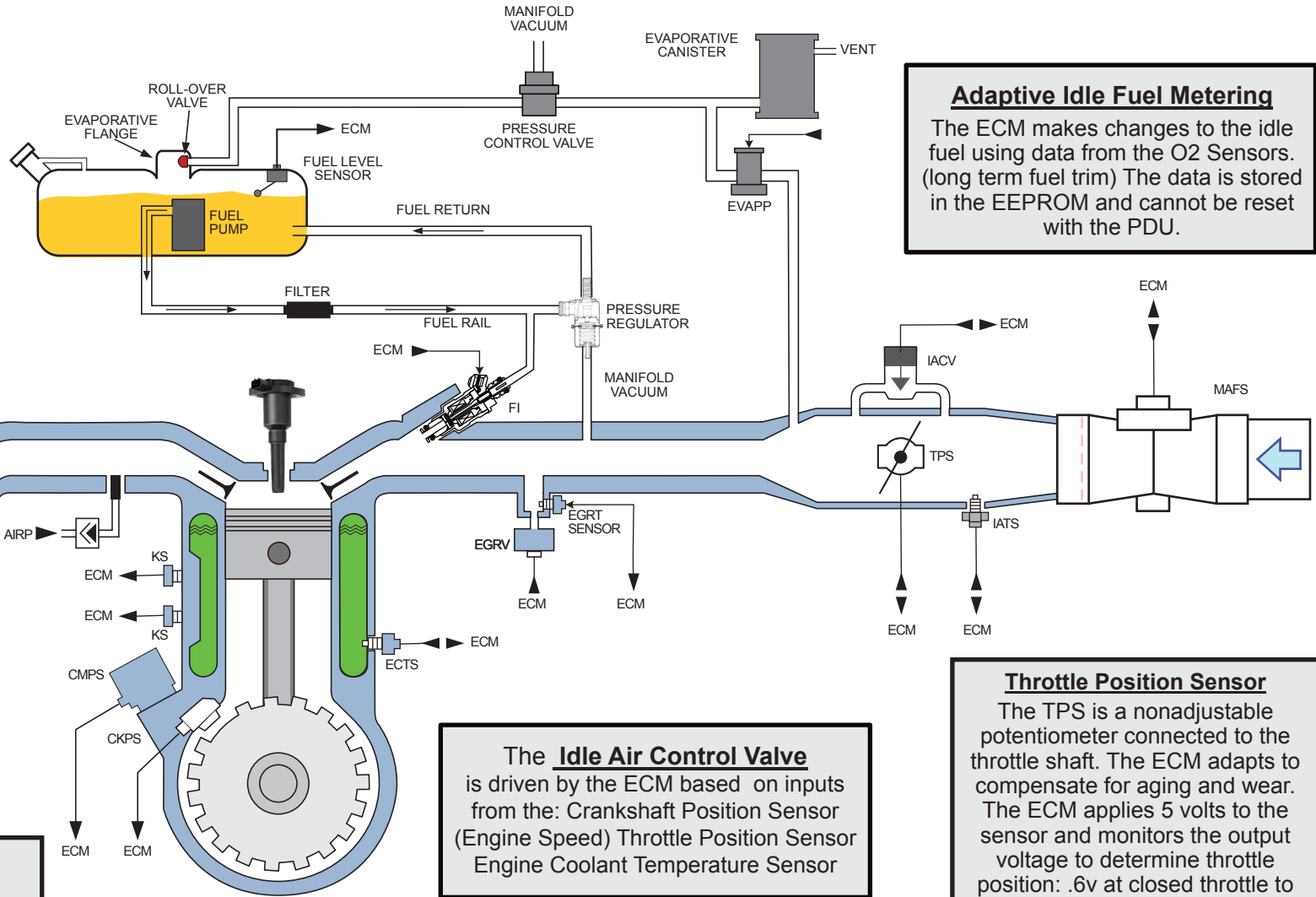


AJ16 4.0 Liter Engine Management System Overview



O2 Sensors
The downstream sensors are used by the ECM for Closed Loop fuel metering. The upstream sensors are used for OBD catalyst monitoring.

Adaptive Idle Fuel Metering
The ECM makes changes to the idle fuel using data from the O2 Sensors. (long term fuel trim) The data is stored in the EEPROM and cannot be reset with the PDU.

KEY TO ACRONYMS

AIRP.....	SECONDARY AIR INJECTION PUMP
CKPS.....	CRANKSHAFT POSITION SENSOR
CMPS.....	CAMSHAFT POSITION SENSOR
ECM.....	ENGINE CONTROL MODULE
ECTS.....	ENGINE COOLANT TEMP. SENSOR
EGR.....	EXHAUST GAS RECIRCULATION
EGRT.....	EGR TEMP. SENSOR
EGRV.....	EGR VALVE
EVAPP.....	EVAP. EMISSION CONTROL (PURGE) VALVE
FI.....	FUEL INJECTOR
IACV.....	IDLE AIR CONTROL VALVE
IATS.....	INTAKE AIR TEMP SENSOR
KS.....	KNOCK SENSOR
MAFS.....	MASS AIR FLOW SENSOR
TPS.....	THROTTLE POSITION SENSOR

The **Idle Air Control Valve** is driven by the ECM based on inputs from the: Crankshaft Position Sensor (Engine Speed) Throttle Position Sensor Engine Coolant Temperature Sensor

Throttle Position Sensor
The TPS is a nonadjustable potentiometer connected to the throttle shaft. The ECM adapts to compensate for aging and wear. The ECM applies 5 volts to the sensor and monitors the output voltage to determine throttle position: .6v at closed throttle to 5v at WOT.

Knock Sensors There are two. One for cylinders 1, 2, 3 and one for cylinders 4, 5, 6. The ECM determines which cylinder is knocking via input from the CKPS and retards the timing for that single cylinder.

Idle Speed is regulated by Idle Air Control and Ignition Timing with additional input from Temperature, Transmission Load (Gear Selection) and A/C Compressor.