

ENGINE CONTROL COMPONENTS > ENGINE COOLANT TEMPERATURE (ECT) SENSOR

The ECT sensor is a thermistor device in which resistance changes with temperature. The resistance of a thermistor decreases as the temperature increases, and the resistance increases as the temperature decreases. The varying resistance changes the voltage drop across the sensor terminals and provides electrical signals to the PCM corresponding to temperature.

Thermistor-type sensors are considered passive sensors. A passive sensor is connected to a voltage divider network so varying the resistance of the passive sensor causes a variation in total current flow. Voltage that is dropped across a fixed resistor (pull-up resistor) in series with the sensor resistor determines the voltage signal at the PCM. This voltage signal is equal to the reference voltage minus the voltage drop across the fixed resistor.

The ECT sensor is located in an engine coolant passage and measures the engine coolant temperature. The PCM uses the engine coolant temperature input for fuel control and for cooling fan control. The ECT sensor can be a threaded or twist lock type.

Fig 1: Identifying Threaded ECT Sensor



Courtesy of FORD MOTOR CO.

ENGINE CONTROL COMPONENTS > EVAPORATIVE EMISSION (EVAP) CANISTER VENT VALVE

The EVAP canister vent valve (located near the EVAP canister) is part of the enhanced EVAP system controlled by the PCM. During the EVAP leak check monitor, the EVAP canister vent valve seals the EVAP canister from the atmospheric pressure. This allows the EVAP purge valve to achieve the target vacuum in the fuel tank during the EVAP leak check monitor.