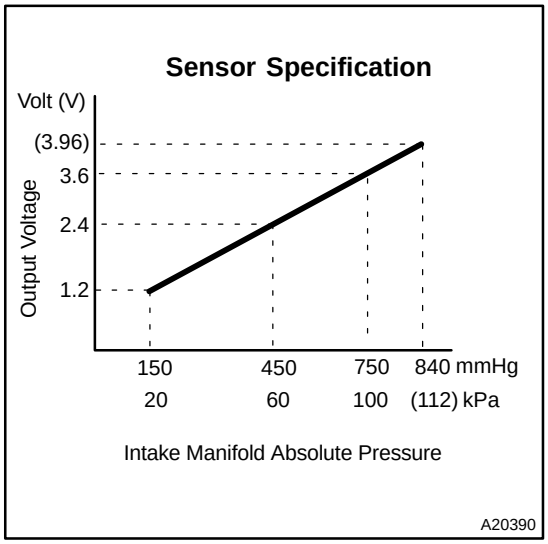
Ce02U–01

MAP Sensor Range/Performance Monitor Description

MONITOR SUMMARY



The manifold air pressure (MAP) sensor detects the air pressure (vacuum) in the intake manifold. The ECM uses this sensor to calculate the engine load. Engine load is one of the factors the ECM uses to determine the fuel injector ON time, i.e. the fuel injection quantity. The sensor always indicates a “pressure” in the intake manifold as a complete vacuum is interpreted as “zero” pressure. Manifold pressures vary from a low value during idle or a deceleration condition to higher value at wide–open throttle (atmospheric pressure level). Supercharged or turbocharged engines will achieve pressure above atmospheric pressures.

The ECM supplies a regulated 5 V reference–voltage to the MAP sensor. The MAP sensor varies its outputs signal voltage between 1.2 V and 3.96 V in response to the pressure variations in the intake manifold. When the pressure in the intake manifold is low, the output voltage of the MAP sensor is low. When the pressure is high, the output voltage is high.

To confirm that the output voltage of the MAP sensor corresponds to the actual pressure in the intake manifold, the ECM checks the MAP sensor output voltage in the following conditions:

- While idling (low intake manifold pressure)
- While the engine is in a high–load condition (high intake manifold pressure)

If the ECM detects a high output voltage from the MAP sensor while the engine is idling or a low output voltage when the engine is highly loaded, the ECM interprets this as a malfunction in the MAP sensor and sets a DTC.

RELATED DTC

Related DTCs	P0106	MAP sensor malfunction

MODEL YEAR CHART

Model Year	See Page
1996 to 2001	Ce–15