



CODE 22

THROTTLE POSITION SENSOR (TPS) CIRCUIT (SIGNAL VOLTAGE LOW) 2.8L "P" SERIES (PORT)

Circuit Description:

The throttle position sensor (TPS) provides a voltage signal that changes relative to the throttle blade. Signal voltage will vary from about .5 at idle to about 5 volts at wide open throttle.

The TPS signal is one of the most important inputs used by the ECM for fuel control and for most of the ECM control outputs.

Test Description: Numbers below refer to circled numbers on the diagnostic chart.

1. Code 22, will set if:
 - Engine running
 - TPS signal voltage is less than about .2 volt for 2 seconds
2. Simulates Code 21: (high voltage) If the ECM recognizes the high signal voltage, the ECM and wiring are OK.
3. This simulates a high signal voltage to check for an open in CKT 417. The "Scan" tool will not read up to 12 volts, but what is important is that the ECM recognizes the signal on CKT 417.
4. There should be 5 volts at terminal "A" if measured with a DVOM when ignition is "ON".

Diagnostic Aids:

A "Scan" tool reads throttle position in volts. Should read less than 1.25 volts with throttle closed and ignition "ON" or at idle. Voltage should increase at a steady rate as throttle is moved toward WOT.

An open or short to ground in CKTs 416 or 417 will result in a Code 22.

Refer to Intermittents in Section "B".

CODE 22
THROTTLE POSITION SENSOR (TPS) CIRCUIT
(SIGNAL VOLTAGE LOW)
2.8L "P" SERIES (PORT)

1

- THROTTLE CLOSED
- DOES "SCAN" DISPLAY TPS .2V (200 mV) OR BELOW?

YES

NO

2

- DISCONNECT SENSOR.
- JUMPER CKTS 416 & 417 TOGETHER.
- "SCAN" SHOULD DISPLAY TPS OVER 4.0 V. DOES IT?

CODE 22 IS INTERMITTENT. IF NO ADDITIONAL CODES WERE STORED, REFER TO "DIAGNOSTIC AIDS" ON FACING PAGE.

NO

YES

3

- PROBE CKT 417 WITH A TEST LIGHT CONNECTED TO 12 VOLTS.
- "SCAN" TOOL SHOULD DISPLAY TPS OVER 4.0 V. DOES IT?

REPLACE SENSOR.

YES

NO

4

CKT 416 OPEN, SHORTED TO GROUND, FAULTY CONNECTION OR FAULTY ECM.

CKT 417 OPEN, SHORTED TO GROUND, FAULTY CONNECTION OR FAULTY ECM.

CLEAR CODES AND CONFIRM "CLOSED LOOP" OPERATION AND NO "SERVICE ENGINE SOON" LIGHT.