



CODE 35

IDLE SPEED ERROR 2.8L "P" SERIES (PORT)

Circuit Description:

Code 35 will set when the closed throttle engine speed is 75 rpm above or below the correct idle speed for 45 seconds. Review general discription in Section "C". Following are nominal warm engine idle speeds:

	AUTO	MANUAL	ALDL
Neutral	900 ± 75	900 ± 75	1000 ± 75
Drive	800 ± 75		1000 ± 75

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

1. Continue with test even if engine will not idle. If idle is too low, "Scan" will display 80 or more counts, or steps. If idle is high, it will display "O" counts and may be caused by a vacuum leak. Occasionally, an erratic or unstable idle may occur. Engine speed may vary 200 rpm or more up and down. Disconnect IAC. If the condition is unchanged, the IAC is not at fault.
2. When the engine was stopped, the IAC Valve retracted (more air) to a fixed "park" position for increased air flow during the next engine start. A "Scan" will display 95 or more counts.
3. Be sure to disconnect the IAC valve prior to this test. The test light will confirm the ECM signals by a steady or flashing light on all circuits.
4. There is a remote possibility that one of the CKTs is shorted to voltage, which would have been indicated by a steady light. Disconnect ECM and turn the ignition "ON" and probe terminals to check for this condition.

Diagnostic Aids:

A slow unstable idle may be caused by a system problem that cannot be corrected by the IAC. "Scan" counts will be above 60 counts if too low and "0" counts if too high.

If idle is too high, stop engine. Ignition "ON". Ground diagnostic terminal. Wait a few seconds for IAC to seat then disconnect IAC. Start engine. If idle speed is above 800 ± 50 rpm, locate and correct vacuum leak.

- **System too lean (high air/fuel ratio)**
Idle speed may be too high or too low. Engine speed may vary up and down, and disconnecting IAC does not help. This may set Code 44. "Scan" and/or voltmeter will read an oxygen sensor output less than 300 mV (.3V). Check for low regulated fuel pressure or water in fuel. A lean exhaust with an oxygen sensor output fixed above 800 mV (.8 mV) will be a contaminated sensor, usually silicone. This may also set a Code 45.
- **System too rich (low air/fuel ratio)**
Idle speed too low. "Scan" counts usually above 80. System obviously rich and may exhibit black smoke exhaust. "Scan" tool and/or voltmeter will read an oxygen sensor signal fixed above 800 mV (.8V).
Check:
 - High fuel pressure
 - Injector leaking or sticking
- **Map sensor** Ignition "ON", engine stopped. Compare MAP signal voltage with a known good vehicle with the same sensor. Voltage should be the same, ± 400 mV (.4V). Also, disconnect MAP Sensor electrical connector. If idle improves, substitute a known good sensor and recheck.
- **Throttle body** Remove IAC and inspect bore for foreign material or evidence of IAC valve dragging the bore.
- **A/C compressor or relay failure** See CHART C-10.
- Refer to "Rough, Unstable, Incorrect Idle or Stalling" in Symptoms in Section "B".

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1

- ENGINE IDLING AT NORMAL OPERATING TEMPERATURE.
- NOTE RPM IN PARK OR NEUTRAL.

2

- IGNITION "OFF" FOR 10 SEC.
- START ENGINE AND IMMEDIATELY NOTE RPM.

IDLE RPM, NO INCREASE

IDLE RPM, INCREASE

- IDLE ENGINE FOR 1 MINUTE AND NOTE RPM.

WILL NOT RETURN TO IDLE RPM RECORDED ABOVE.

RETURNS TO IDLE RPM RECORDED ABOVE.

IDLE AIR CONTROL CIRCUIT OK.
 SEE FACING PAGE "DIAGNOSTIC AIDS".

3

- IGNITION "OFF".
- DISCONNECT IAC VALVE HARNESS.
- IGNITION "ON", ENGINE STOPPED.
- GROUND DIAGNOSTIC TEST TERMINAL.
- CONNECT A TEST LIGHT BETWEEN EACH IAC HARNESS CONNECTOR TERMINAL AND GROUND.

NO LIGHTS, ONE OR MORE CIRCUITS.

4 LIGHT STEADY OR FLASHING ALL CIRCUITS.

CHECK FOR OPEN OR SHORT TO GROUND IN CIRCUIT WITH NO LIGHT.

FAULTY IAC CONNECTION OR IAC VALVE.

ARE ALL CIRCUITS OK?

YES

NO

CHECK RESISTANCE ACROSS IAC COILS. SHOULD BE MORE THAN 20 OHMS BETWEEN IAC TERMINALS OPPOSITE HARNESS CONNECTOR TERMS. "A" TO "B" AND "C" TO "D".

REPAIR WIRING AND RECHECK.

OK

NOT OK

FAULTY ECM CONN. OR ECM.

REPLACE IAC VALVE AND RETEST.

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