



CODE 34

MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR CIRCUIT (SIGNAL VOLTAGE LOW - HIGH VACUUM) 2.8L "P" SERIES (PORT)

Circuit Description:

The manifold absolute pressure sensor (MAP) responds to changes in manifold pressure (vacuum). The ECM receives this information as a signal voltage that will vary from about 1-1.5 volts at idle to 4-4.5 volts at wide open throttle.

If the MAP sensor fails, the ECM will substitute a fixed MAP value and use the throttle position sensor (TPS) to control fuel delivery.

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

- Code 34 will set when signal voltage is too low (kPa less than 13) and ignition is turned "ON".
or
Engine running greater than 1200 rpm and throttle open greater than 25%
- If the ECM recognizes the high MAP signal, the ECM and wiring are OK.
- The "Scan" tool may not display 12 volts. The important thing is that the ECM recognizes the voltage as more than 4 volts, indicating that the ECM and CKT 432 are OK.

Diagnostic Aids:

An intermittent open in CKTs 432 or 416 will result in a Code 34.

Ignition "ON" engine "OFF", voltages should be within the values shown in the table on the chart.

Also CHART C-1D can be used to test MAP sensor.

Refer to "Intermittents" in Section "B".

MAP (kPa)	MAP (in. Hg)	MAP (mm Hg)
13	10	760
15	11	825
20	15	1130
25	19	1425
30	23	1730
35	26	1975
40	30	2280
45	34	2580
50	38	2880
55	41	3080
60	45	3380
65	49	3680
70	53	3980
75	56	4180
80	60	4480
85	64	4780
90	68	5080
95	71	5280
100	75	5580
105	79	5880
110	83	6180
115	86	6380
120	90	6680
125	94	6980
130	98	7280
135	101	7480
140	105	7780
145	109	8080
150	113	8380
155	116	8580
160	120	8880
165	124	9180
170	128	9480
175	131	9680
180	135	9980
185	139	10280
190	143	10580
195	146	10780
200	150	11080

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MANIFOLD ABSOLUTE PRESSURE
(MAP) SENSOR CIRCUIT
(SIGNAL VOLTAGE LOW - HIGH VACUUM)
2.8L "P" SERIES (PORT)

1 • ENGINE IDLING.
 DOES "SCAN" DISPLAY MAP BELOW .25 VOLTS?

YES

NO

2 • IGNITION "OFF".
 • DISCONNECT SENSOR ELECTRICAL CONNECTOR.
 • JUMPER HARNESS TERMINALS "B" TO "C".
 • IGNITION "ON".
 • MAP VOLTAGE SHOULD READ OVER 4 VOLTS.
 DOES IT?

CODE 34 IS INTERMITTENT.
 IF NO ADDITIONAL CODES WERE
 STORED, REFER TO "DIAGNOSTIC
 AIDS" ON FACING PAGE.

NO

YES

3 • IGNITION "OFF".
 • REMOVE JUMPER WIRE.
 • PROBE TERMINAL "B" (CKT 432) WITH A
 TEST LIGHT TO 12 VOLTS.
 • IGNITION "ON".
 • "SCAN" SHOULD READ OVER 4 VOLTS.
 DOES IT?

FAULTY CONNECTION
 OR SENSOR.

YES

NO

CKT 416 OPEN OR SHORTED TO
 GROUND OR FAULTY ECM.

CKT 432 OPEN OR SHORTED TO
 GROUND OR FAULTY ECM.

IGNITION "ON" ENGINE STOPPED VOLTAGES

ALTITUDE		VOLTAGE RANGE
Meters	Feet	
Below 305	Below 1,000	3.8---5.5V
305--- 610	1,000--2,000	3.6---5.3V
610--- 914	2,000--3,000	3.5---5.1V
914--1219	3,000--4,000	3.3---5.0V
1219--1524	4,000--5,000	3.2---4.8V
1524--1829	5,000--6,000	3.0---4.6V
1829--2133	6,000--7,000	2.9---4.5V
2133--2438	7,000--8,000	2.8---4.3V
2438--2743	8,000--9,000	2.6---4.2V
2743--3048	9,000--10,000	2.5---4.0V

LOW ALTITUDE = HIGH PRESSURE = HIGH VOLTAGE