



CODE 24

VEHICLE SPEED SENSOR (VSS) CIRCUIT 2.5L "P" SERIES (TBI)

Circuit Description:

The ECM applies and monitors 12 volts on CKT 389. CKT 389 connects to the vehicle speed sensor which alternately grounds CKT 389 when drive wheels are turning. This pulsing action takes place about 2000 times per mile and the ECM will calculate vehicle speed based on the time between "pulses".

"Scan" reading should closely match with speedometer reading with drive wheels turning.

** To prevent misdiagnosis, the technician should review Electrical Section "8A" or the Electrical Troubleshooting Manual and identify the type of vehicle speed sensor used prior to using this chart. Disregard a Code 24 set when drive wheels are not turning.

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

- Code 24 will set if vehicle speed equals 0 mph when:
 - Engine speed is between 1400 and 3600 rpm
 - TPS is less than 2%
 - Low load condition
 - Not in park or neutral
 - All conditions met for 5 seconds

These conditions are met during a road load deceleration. Disregard Code 24 that sets when drive wheels are not turning.

- 8-12 volts, at the I.P. connector, indicates CKT 389 is open between the I.P. connector and the VSS, or there is a faulty vehicle speed sensor. A voltage of less than 1 volt, at the I.P. connector, indicates that CKT 389 wire is shorted to ground or open between the connector and the ECM

The I. P. connector is located in the center console near the ECM.

Diagnostic Aids:

"Scan" should indicate a vehicle speed whenever the drive wheels are turning greater than 3 mph.

A faulty or misadjusted park/neutral switch can result in a false Code 24. Use a "Scan" and check for proper signal while in drive. Refer to CHART C-1A for P/N switch diagnosis check.

If all OK, refer to "Intermittents" in Section "B".

| WIRE | TO | FROM |
|-------------|-----|------------|
| DK GRN 389 | W23 | ECM |
| BLK 450 | H | P/N SWITCH |
| ORN/BLK 434 | W18 | P/N SWITCH |
| 12V | W23 | ECM |
| 12V | W18 | ECM |

CODE 24
VEHICLE SPEED SENSOR (VSS) CIRCUIT
2.5L "P" SERIES (TBI)

DISREGARD CODE 24 IF SET WHILE DRIVE WHEELS ARE NOT TURNING.

- 1
- ASSUMES SPEEDOMETER IS WORKING OK.
 - CRUISE CONTROL "OFF".
 - RAISE DRIVE WHEELS.
 - "NOTICE": DO NOT PERFORM THIS TEST WITHOUT SUPPORTING THE LOWER CONTROL ARMS SO THAT THE DRIVE AXLES ARE IN A NORMAL HORIZONTAL POSITION. RUNNING THE VEHICLE IN GEAR WITH THE WHEELS HANGING DOWN AT FULL TRAVEL MAY DAMAGE THE DRIVE AXLES.
 - WITH ENGINE IDLING IN GEAR, "SCAN" SHOULD DISPLAY MPH ABOVE 0. DOES IT?

NO

- 2
- IGNITION "OFF".
 - DISCONNECT 15 WAY I.P. CONNECTOR. IGNITION "ON."
 - PROBE ECM SIDE OF 15-WAY I.P. CONNECTOR TERMINAL "H" WITH VOLTMETER TO GROUND.
 - SHOULD DISPLAY 10 VOLTS OR MORE. DOES IT?

YES

CIRCUIT 437 OPEN OR SHORTED TO GROUND BETWEEN I.P. CONNECTOR AND VSS BUFFER OR FAULTY BUFFER.

YES

CODE 24 IS INTERMITTENT. IF NO ADDITIONAL CODES WERE STORED, REFER TO DIAGNOSTIC AIDS ON FACING PAGE.

NO

CIRCUIT 437 SHORTED TO GROUND, OPEN BETWEEN ECM AND I.P. CONNECTOR, OR FAULTY ECM.

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