



CODE 25

MANIFOLD AIR TEMPERATURE(MAT) SENSOR (SIGNAL VOLTAGE LOW)

5.7L "Y" SERIES

FUEL INJECTION (PORT)

The MAT Sensor uses a thermistor to control the signal voltage to the ECM. The ECM applies a voltage (4-6 volts) on CKT 472 to the sensor. When the air is cold the sensor (thermistor) resistance is high, therefore the ECM will see a high signal voltage. If the air is warm the sensor resistance is low therefore the ECM will see a low voltage.

A "SCAN" tool reads temperature of the air entering the engine. Should read close to ambient air temperature when engine is cold, and rises as underhood temperature increases.

Code 25 will set if:

- A signal voltage indicates a manifold air temperature greater than 150°C.
- Time since engine start is 1 minute or longer.
- Vehicle speed indicating the car is moving.
- All conditions met for about 12 seconds.

1. If voltage is above 4 volts, the ECM and wiring are OK. This test and the following test can be made at the MAT jumper connector.

2. If resistance is less than 185 ohms, the jumper harness should be checked before replacing the sensor.

"SCAN" STEP ONLY ■**CODE 25****MANIFOLD AIR TEMPERATURE (MAT) CIRCUIT
(SIGNAL VOLTAGE LOW)****5.7L "Y" SERIES
FUEL INJECTION (PORT)****START
NON-SCAN****1****START
SCAN**

- DISCONNECT MAT SENSOR .
- IGNITION "ON" , ENGINE STOPPED .
- CHECK VOLTAGE BETWEEN HARNESS CONNECTOR TERMINALS , CKT 472 AND 452 .

**■ IF MAT TEMP. IS FIXED ABOVE
150°C DISCONNECT SENSOR****4 VOLTS OR OVER
■ BELOW -30°C****2**

CHECK RESISTANCE ACROSS MAT SENSOR TERMINALS. SHOULD BE MORE THAN 185 OHMS. SEE TABLE FOR APPROX. TEMPERATURE TO RESISTANCE VALUES.

OK

INTERMITTENT FAULT IN SENSOR CIRCUIT OR CONNECTOR. IF ADDITIONAL CODES WERE STORED, SEE APPLICABLE CHART. IF NO CODES , REFER TO INTERMITTENTS SECTION B .

NOT OK**REPLACE SENSOR****BELOW 4 VOLTS****■ ABOVE 150°C**

CHECK FOR SHORT TO GROUND IN CKT 472

IF CKT 472 IS OK , IT IS A FAULTY ECM CONNECTOR OR ECM .

MAT SENSOR		
TEMPERATURE TO RESISTANCE VALUES (APPROXIMATE)		
°F	°C	OHMS
210	100	185
160	70	450
100	38	1,600
70	20	3,400
40	4	7,500
20	-7	13,500
0	-18	25,000
-40	-40	100,700

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

5-28-85

*55 1377-6E