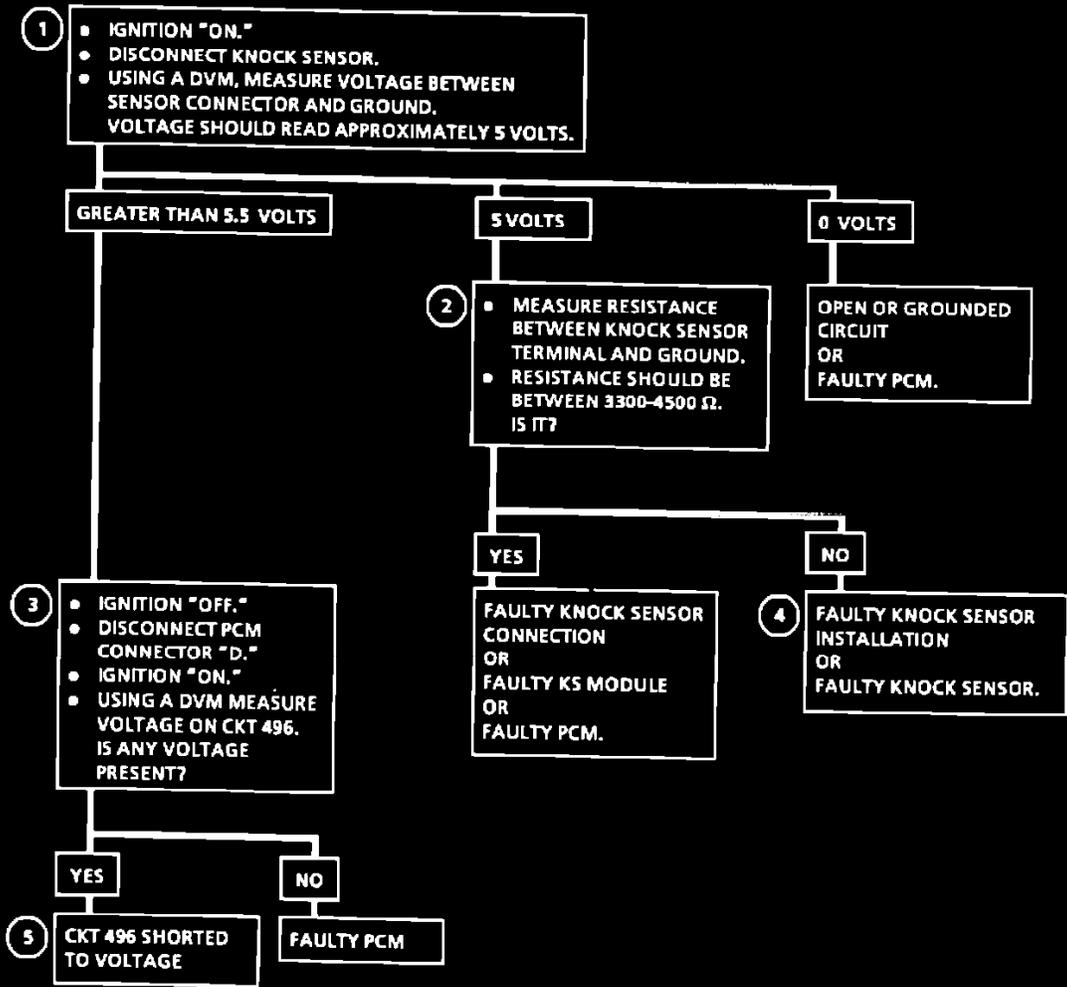


**A L L Diagnostic Trouble Codes (DTC): Manufacturer Code Charts
Powertrain Controls - ECM/PCM**

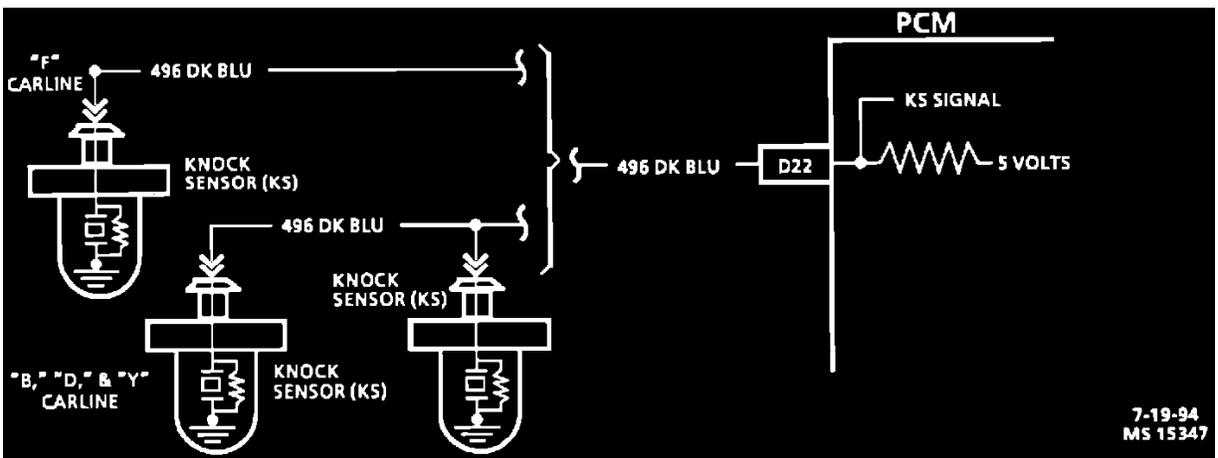
**DTC 43
KNOCK SENSOR (KS) CIRCUIT
(VIN P) "F" CARLINE (SFI)**



"AFTER REPAIRS," REFER TO DTC CRITERIA AND CONFIRM DTC DOES NOT RESET.

7-27-94
MS 8324-6E

Diagnostic Trouble Code (DTC) 43

7-19-94
MS 15347

Knock Sensor Circuit

CIRCUIT DESCRIPTION

The knock sensor (KS) system is used to detect engine detonation. The PCM will retard the spark timing based on signals from the KS module. The knock sensor produces an AC voltage which is sent to the KS module. The amount of AC voltage produced by the sensor is determined by the amount of knock. The circuitry within the knock sensor causes the PCM's 5 volts to be pulled down so that under a no knock condition, CKT 496 would measure about 2.5 volts. The internal PCM test run on the KS circuit will determine if it is operating correctly.

DTC 43 WILL SET WHEN

If the PCM detects that any of the following voltage conditions have been met for 5 seconds, DTC 43 will be set:

- One of two sensors being open - voltage between about 2.2 volts and 4.1 volts.
- Sensor open - voltage greater than 4.1 volts.
- Sensor grounded - voltage less than 0.78 volt.

ACTION TAKEN (PCM WILL DEFAULT TO)

The Malfunction Indicator Lamp (MIL) will illuminate. The PCM will retard timing to a predetermined maximum based on current RPM and MAP. Some loss of performance will result.

DTC CHART TEST DESCRIPTION

Number(s) below refer to circled number(s) on the diagnostic chart.

1. If an audible knock is heard from the engine, repair the internal engine problem, as normally no knock should be detected at idle. The PCM supplies 5 volts on CKT 496 which should be present at the knock sensor terminal when the sensor is disconnected.
2. This test determines if the knock sensor is faulty or if the KS module is faulty.
3. CKT 496 shorted to voltage will set DTC 43 and indicate on Tech 1 as sensor open. With the sensor and the PCM disconnected, no voltage should be present on CKT 496.
4. An improperly installed knock sensor can prevent the knock sensor from grounding to the block.
5. If a short to battery voltage is found, additional component damage may have occurred. If DTC 43 resets after the short is repaired, it will be necessary to re-run this chart to locate any additional faults.

DIAGNOSTIC AIDS

The PCM has the ability to diagnose opens and shorts in the KS circuit. The Tech 1 will display if the sensor is open or if it is grounded when the PCM detects these conditions.

Check CKT 496 for a potential open or short to ground.

Also, check for proper installation of the KS module.

KS sensor wire is routed too close to secondary ignition components may be susceptible to EMI interference.

Refer to "**Intermittents**" in "**Diagnosis By Symptom.**" See: Powertrain Management/Computers and Control Systems/Testing and Inspection