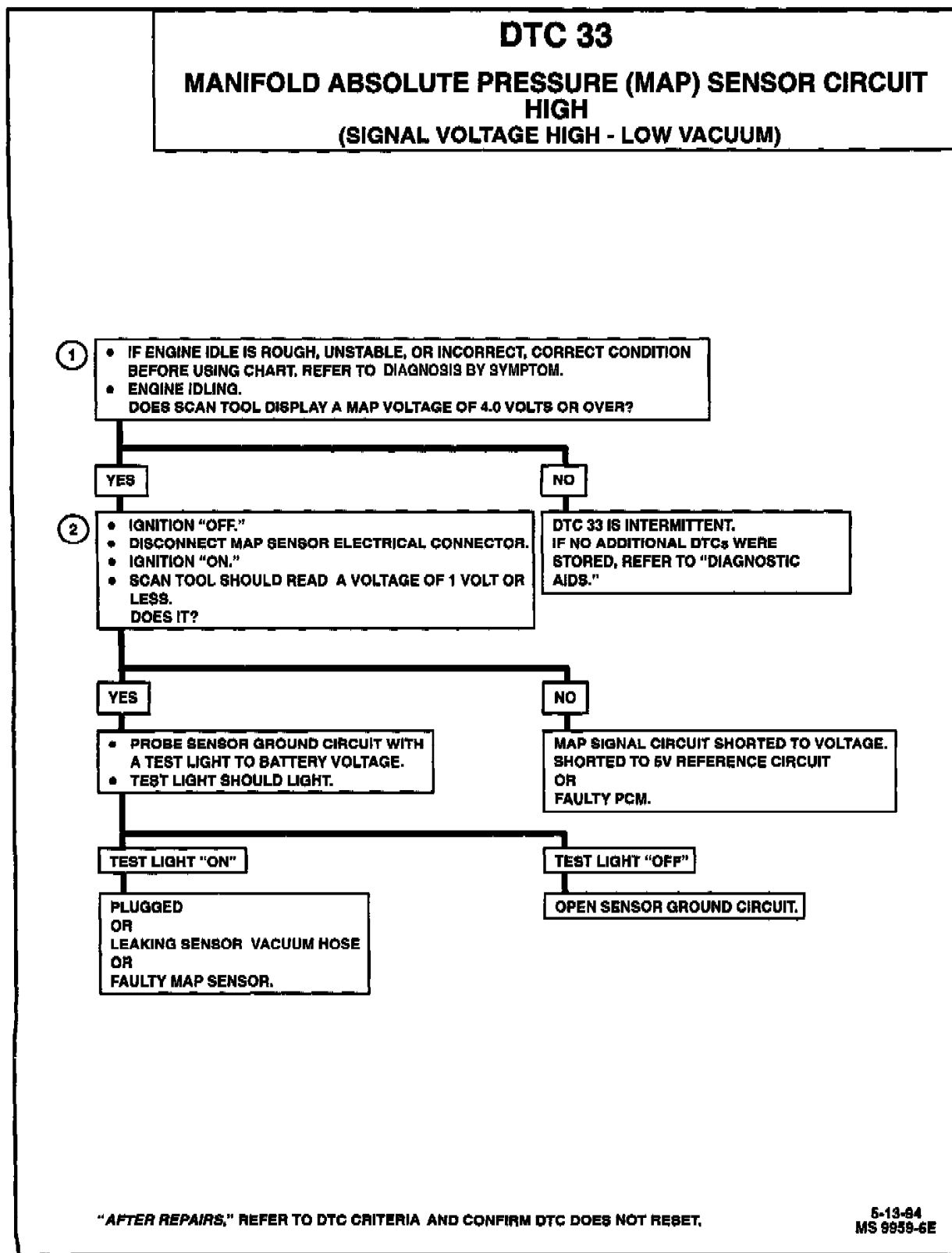
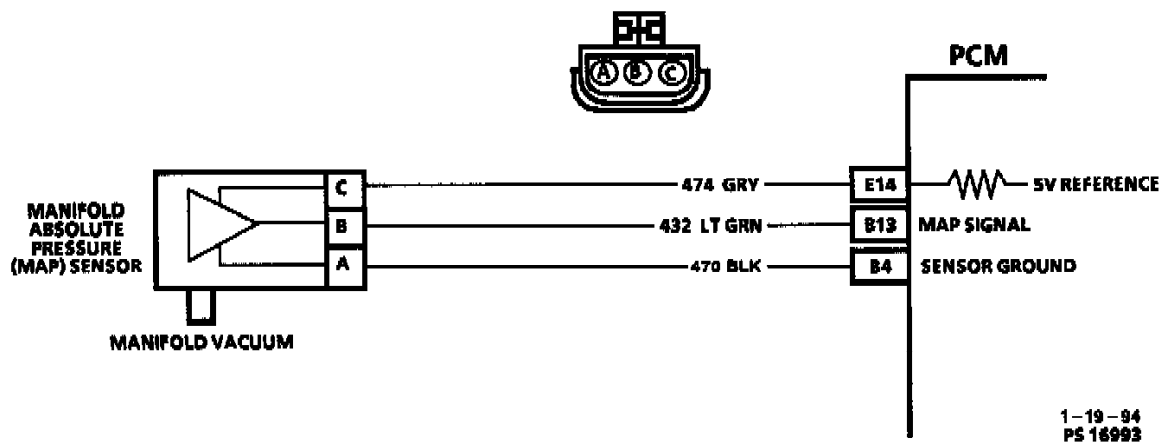


A L L Diagnostic Trouble Codes (DTC): Manufacturer Code Charts
Powertrain Control Module - PCM



Diagnostic Trouble Code 33



MAP Sensor Circuit

CIRCUIT DESCRIPTION

The Manifold Absolute Pressure (MAP) sensor responds to changes in manifold pressure (vacuum). The PCM receives this information as a signal voltage that will vary from about 1-1.5 volts at closed throttle (idle) to 4-4.6 volts at Wide Open Throttle (WOT) (low vacuum).

DTC 33 WILL SET WHEN

- ^ RPM greater than 400.
- ^ MAP signal voltage is too high (vacuum less than 68 kPa).
- ^ Throttle position is less than 2%.
- ^ These conditions exist longer than 5 seconds.
- ^ Engine misfire or a low unstable idle may set DTC 33.

ACTION TAKEN (PCM WILL DEFAULT TO)

If the MAP sensor fails, the PCM will substitute a MAP value and use the Throttle Position (TP) sensor and rpm to control fuel delivery and the malfunction indicator lamp will illuminate.

DTC 33 WILL CLEAR WHEN

Conditions for fault are no longer present and Tech 1 "clear DTCs" function is used or 50 ignition switch keycycles have passed with no further faults or ignition switch is turned "OFF" and battery feed voltage is removed for 10 seconds.

DTC CHART TEST DESCRIPTION

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

1. This step will determine if DTC 33 is the result of a hard failure or an intermittent condition.
2. This step simulates conditions for a DTC 34. If the PCM recognizes the change, the PCM and 5 volt reference circuit and MAP signal circuit are OK.

DIAGNOSTIC AIDS

With the ignition "ON" and the engine stopped, the manifold pressure is equal to atmospheric pressure and the signal voltage will be high. This information is used by the PCM as an indication of vehicle altitude. Comparison of this reading with a known good vehicle with the same sensor is a good way to check accuracy of a "suspect" sensor. Readings should be the same +/- 0.4 volt.

A DTC 33 will result if sensor ground circuit is open or if MAP signal circuit is shorted to voltage or to 5V reference circuit.

If DTC 33 is intermittent, refer to **Diagnosis By Symptom / Intermittents** See: Powertrain Management/Computers and Control Systems/Testing and Inspection/Initial Inspection and Diagnostic Overview/- Intermittent Malfunctions

- ^ Check all connections.
- ^ Disconnect sensor from bracket and twist sensor connections. Output changes greater than 0.1 volt indicates a bad connector or connection. If OK, replace sensor.

NOTE: Make sure electrical connector remains securely fastened.

- ^ Refer to "MAP Output Check" in **C Charts / Manifold Absolute Pressure (MAP) Output Check** for further diagnosis. See: Powertrain Management/Computers and Control Systems/Testing and Inspection/Component Tests and General Diagnostics/MAP Sensor Output Diagnosis