**Meets ASE Task:** (A8-B-5) P-1 Inspect and test computerized engine control system sensors, powertrain/engine control module (PCM/ECM), actuators, and circuits using a graphing multimeter (GMM), digital storage oscilloscope (DSO), and/or scan tool; determine needed action.

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date:\_\_\_\_\_\_\_\_\_\_\_\_\_

Time on Task:\_\_\_\_\_\_\_\_\_\_\_\_\_

Make/Model/Year:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

VIN:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Evaluation (Enter number from 4, 3, 2, 1) :\_\_\_\_\_\_\_\_\_

**MAP Sensor Diagnosis**

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**[ ]  1.** Check service information for the specified MAP sensor diagnosis procedure.

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**[ ]  2.** Perform a thorough visual inspection including:

a. Check the condition of vacuum hose (if equipped).

b. Check that the vacuum hose routing does not have any dips or sags in the

 vacuum hose between the sensor and the intake manifold.

 **NOTE:** A dip or low portion in the vacuum hose can create a trap where liquid fuel

 (condensed gasoline fumes) or water (condensed steam) can accumulate and block the

 vacuum signal to the MAP sensor.

c. Disconnect the vacuum hose (if equipped) from the MAP sensor. If anything,

 such as a liquid or other substance comes out of the sensor or the hose, replace

 the MAP sensor. Reconnect the vacuum hose to the MAP.

**[ ]  3.** Turn the ignition key on (engine off), read and record the MAP sensor voltage (or

 frequency) = \_\_\_\_\_ volts (Hz) (use either a scan tool or digital meter connected to the

 signal wire). (Should be about 4.60 to 4.80 volts or 156-159 Hz.)

 **OK [ ]  NOT OK [ ]**

**[ ]  4.** Start the engine and operate until normal operating temperature is achieved. Read and

 record the MAP sensor voltage (or Hz) at idle speed = \_\_\_\_\_\_\_\_volts (Hz). (Should

 be between 0.9 and 1.6 volts (102-109 Hz) if the engine varies between 17 and 21

 inches of Hg.) **OK [ ]  NOT OK [ ]**



**[ ]  5** **.** Based on these tests, what is the needed action?

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