

MAP Sensor Diagnosis

Meets NATEF Task: (A8-B-5) Inspect and test sensors, actuators, and circuits using a graphing multimeter (GMM)/digital storage oscilloscope (DSO); perform necessary action. (P-1)

Name _____ Date _____ Time on Task _____

Make/Model/Year _____ VIN _____ Evaluation: 4 3 2 1

_____ 1. Check service information for the specified MAP sensor diagnosis procedure.

_____ 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. Using a GMM or DSO, graph the output signal from the MAP sensor and compare it (draw the pattern displayed).

_____ 6. Based on these tests, what is the necessary action? _____
