



# MAP Sensor Diagnosis

**Meets NATEF Task:** (A8-B-7) Inspect and test sensors, actuators, and circuits using a graphing multimeter (GMM)/digital storage oscilloscope (DSO); perform necessary action. (P-2)

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.

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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. 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? \_\_\_\_\_

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