

# Magnetic Sensor Scope Test

**Meets NATEF Task:** (A8-C-2) Inspect and test ignition primary and secondary circuit wiring and solid state components; determine necessary action. (P-1)

Name \_\_\_\_\_ Date \_\_\_\_\_ Time on Task \_\_\_\_\_

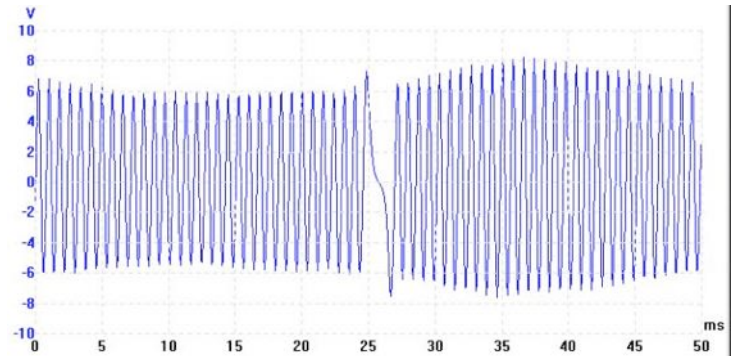
Make/Model/Year \_\_\_\_\_ VIN \_\_\_\_\_ Evaluation: 4 3 2 1

Magnetic sensors are used by many vehicle manufacturers as crankshaft position sensors, camshaft position sensors and wheel speed sensors. All magnetic sensors contain a magnet surrounded by a coil of wire. When a notched wheel passes near the magnet, the magnetic field changes strength. This changing magnetic field causes a changing voltage in the coil windings.

\_\_\_\_\_ 1. Check service information for the recommended procedures and specifications for testing magnetic position sensors.

\_\_\_\_\_

\_\_\_\_\_ 2. Locate the magnetic sensor to be tested and carefully back probe the sensor pigtail connector. Connect the scope probe lead to the signal wire and connect the probe ground lead to a good engine ground.



\_\_\_\_\_ 3. Set the scope settings as follows:

- Volts per Division = 5 volts AC
- Time per division = 500 milliseconds (5ms)
- Trigger Level = 2 volts AC (50%)
- Trigger Slope = positive (+)

\_\_\_\_\_ 4. Start the engine and observe the scope pattern.  
The highest voltage of a peak = \_\_\_\_\_ volts. Draw the waveform here:

\_\_\_\_\_ 5. Based on the test results, what is the necessary action? \_\_\_\_\_

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