

Name _____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

1) What are three ways oxygen sensors can be tested?

2) What are three basic designs of oxygen sensors and how many wires may be used for each?

3) How does an oxygen sensor detect oxygen levels in the exhaust?

4) How can the oxygen sensor be fooled and provide the wrong information to the PCM?

5) What is the difference between open-loop and closed-loop engine operation?

Answer Key

Testname: ENGINEPERF5_SHORT24

- 1) Oxygen sensors can be tested using a DMM set to read DC volts, a DSO to observe the waveform, or using a scan tool to check for voltage ranges and fuel trim numbers.
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- 2) The three types of oxygen sensors include: zirconia, titanium, and wide-band designs. The number of wires varies from one to six, depending on the design.
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- 3) An oxygen sensor detects oxygen in the exhaust by comparing the oxygen levels between the exhaust and the outside air.
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- 4) An oxygen sensor can be fooled if there is an exhaust leak upstream from the O2S or if the sensor itself is contaminated.
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- 5) In open loop, the fuel delivery is provided by the PCM based on a program, whereas in closed loop, changes in the injector pulse width can be made by the PCM based on the signal from the oxygen sensors.
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