

Name \_\_\_\_\_

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

1) Explain the difference between a type A and type B OBD-II diagnostic trouble code.

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2) Explain the procedure to follow when diagnosing a vehicle with stored DTCs using a scan tool.

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3) Discuss what the PCM does during a drive cycle to test emissions-related components.

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4) List three things that should be checked as part of a thorough visual inspection.

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5) Explain why a bulletin search should be performed after stored DTCs are retrieved.

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6) List the three methods that can be used to reprogram a PCM.

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## Answer Key

Testname: AEEP8\_SHORT44

- 1) • TYPE A CODES. A type A diagnostic trouble code is emissions related and causes the MIL to be turned on at the first trip if the computer has detected a problem. Engine misfire or a very rich or lean air–fuel ratio, for example, causes a type A DTC. These codes alert the driver to an emissions problem that may cause damage to the catalytic converter.
  - TYPE B CODES. A type B code is stored and the MIL is turned on during the second consecutive trip, alerting the driver to the fact that a diagnostic test was performed and failed.

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- 2) Using a scan tool, check the ECT equals IAT to KOED and look carefully at all major sensors and compare the readings to the normal reading that would be accepted.

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- 3) The vehicle must be driven under a variety of operating conditions for all active tests to be performed. A trip is defined as an engine-operating drive cycle that contains the necessary conditions for a particular test to be performed. For example, for the EGR test to be performed, the engine has to be at normal operating temperature and decelerating for a minimum amount of time. Some tests are performed when the engine is cold, whereas others require that the vehicle be cruising at a steady highway speed.

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- 4) • Check for obvious problems
  - Check everything that does and does not work.
  - Look for evidence of previous repairs.
  - Check oil level and condition.
  - Check coolant level and condition.

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- 5) Many TSBs refer to problems that could have certain diagnostic trouble codes (DTCs).

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- 6) The three methods include:
  - a. Direct
  - b. Indirect
  - c. Pass through

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