Automotive Technology 6th Edition
Chapter 89

Name_____

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

1) What is the difference between a type A and type B OBD-II DTC?

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2) What could cause the MIL to flash?

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3) What does the PCM do during a trip to test emission-related components?

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4) What modes are available using Mode $06?

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5) What is the difference between a trip and a warm-up cycle?

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1) Misfire type A. Upon detection of a misfire type A (200 revolutions), which causes catalyst damage, the MIL blinks once per second during the actual misfire, and a DTC is stored. Misfire type B. Upon detection of a misfire type B (1,000 revolutions), which exceeds 1.5 times the EPA federal test procedure (FTP) standard or causes a vehicle to fail an inspection and maintenance tailpipe emissions test, the MIL illuminates and a DTC is stored.
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2) This condition indicates a misfire or fuel control system fault that could damage the catalytic converter.
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3) The PCM performs active and intrusive tests of the components if the operating conditions of the vehicle match the enabling criteria.
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4) All OBD-II vehicles must be able to display data on a global (also called generic) scan tool under nine different modes of operation. These modes include:
- Mode One - Current powertrain data (parameter identification display or PID)
- Mode Two - Freeze-frame data
- Mode Three - DTCs
- Mode Four - Clear and reset DTCs, freeze-frame data, and readiness status monitors for noncontinuous monitors only
- Mode Five - Oxygen sensor monitor test results
- Mode Six - Onboard monitoring of test results for non-continuously monitored systems
- Mode Seven - Onboard monitoring of test results for continuously monitored systems
- Mode Eight - Bidirectional control of onboard systems
- Mode Nine - Module identification
- Mode 10 - ($0A) Permanent DTCs

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5) A trip is defined as a key-on condition that contains the necessary conditions for a particular test to be performed, followed by a key-off. A warm-up cycle is defined as a trip with an engine temperature increase of at least 40°F and where engine temperature reaches at least 160°F (71°C).
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