

Name \_\_\_\_\_

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

1) What causes the formation of oxides of nitrogen?

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2) How can exhaust passages for the EGR system be cleaned?

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3) How does the PCM determine that the exhaust flow through the EGR system meets OBD-II regulations?

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4) How does the DPFE sensor work?

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5) How does the use of exhaust gas reduce NOX exhaust emission?

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## Answer Key

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1) Oxides of nitrogen are created under high pressure or temperatures over 2,500°F (1,370°C) inside the combustion chamber.

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2) To quickly and easily remove carbon from exhaust passages, cut an approximately 1-foot (30-cm) length from stranded wire, such as garage door guide wire or an old speedometer cable. Flare the end and place the end of the wire into the passage. Set your drill on reverse and turn it on, and the wire pulls its way through the passage, cleaning the carbon as it goes, just like a snake in a drainpipe. Some vehicles, such as Hondas, require that plugs be drilled out to gain access to the EGR passages.

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3) Depending on the make of vehicle, the PCM may use one of the following to detect EGR flow:

1. Monitoring the oxygen sensor activity when commanding the EGR open
2. Monitoring the MAP sensor and then commanding the EGR open

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4) The DPFE (Delta Pressure Feedback EGR) works by measuring the pressure differential between two sides of a metered orifice to signal the PCM the amount of EGR needed.

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5) Recirculating a small percentage of the exhaust gases back into the intake, results in reduced combustion temperatures. The exhaust gases are chemically inert and do not enter into the combustion process.

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