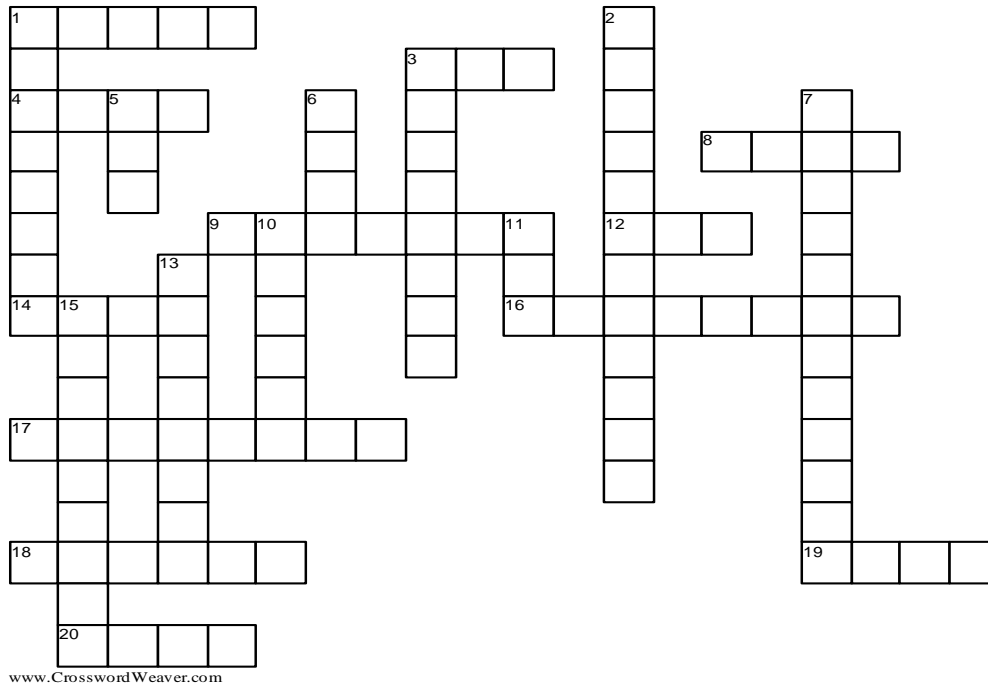


Advanced Engine Performance Diagnosis 8th Edition

Chapter 27

Emission Control Devices Operation and Diagnosis (Part 2)



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ACROSS

- 1 Refers to gases or substances that do not chemically react under normal conditions, such as nitrogen in the atmosphere.
- 3 A condition that can cause engine overheating and potential damage.
- 4 _____ tank pressure: A measurement of the pressure inside the fuel tank, used in the evaporative emission control system to detect leaks and monitor fuel vapor control.
- 8 _____ detection pump: A pump used in the evaporative emission control system to pressurize the system and detect leaks in the fuel vapor containment system.
- 9 _____ crankcase ventilation, a system that vents harmful gases from the engine's crankcase back into the intake manifold to be burned in the combustion process.
- 12 Pollutants produced during combustion that contribute to smog and air pollution.
- 14 _____ sensor: A sensor that measures the pressure differential across the EGR system to monitor and control exhaust gas recirculation.
- 16 _____ feedback exhaust sensor, used to monitor exhaust pressure and control the EGR system.
- 17 A precious metal used in catalytic converters to facilitate chemical reactions that reduce harmful emissions.
- 18 _____ EGR: A type of exhaust gas recirculation system that allows precise control of the amount of exhaust gases recirculated into the engine.
- 19 The electronic vacuum regulator valve, which controls the vacuum applied to the EGR valve to regulate exhaust gas recirculation.
- 20 _____ converter: A smaller catalytic converter used in some vehicles to reduce emissions in tight spaces or secondary emission control applications.

DOWN

- 1 _____ thermometer (pyrometer): A tool used to measure the temperature of objects without making physical contact, often used to measure exhaust temperatures.
- 2 A smaller catalytic converter located upstream of the main converter, used to reduce emissions during cold starts when the main converter has not yet reached operating temperature.
- 3 _____-_____ temperature: The temperature at which a catalytic converter becomes effective at converting harmful pollutants into less harmful substances.
- 5 An abbreviation for the exhaust gas recirculation system, which recirculates a portion of the exhaust gases back into the engine's intake to reduce nitrogen oxide emissions.
- 6 Heated oxygen sensors, which monitor the amount of oxygen in the exhaust and provide feedback to the engine control module to adjust the air-fuel mixture.
- 7 Positive _____: A condition in which exhaust pressure is higher than atmospheric pressure, which can affect exhaust gas recirculation and other systems.
- 10 _____ storage capacity, the ability of a catalytic converter to store oxygen for use in oxidizing pollutants in the exhaust.
- 11 The EGR valve position sensor, which monitors the position of the EGR valve to ensure proper operation.
- 13 _____ backpressure: A condition in which exhaust pressure is lower than atmospheric pressure, which can cause issues in exhaust gas recirculation and other systems.
- 15 A precious metal used in catalytic converters as a catalyst to reduce emissions.

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