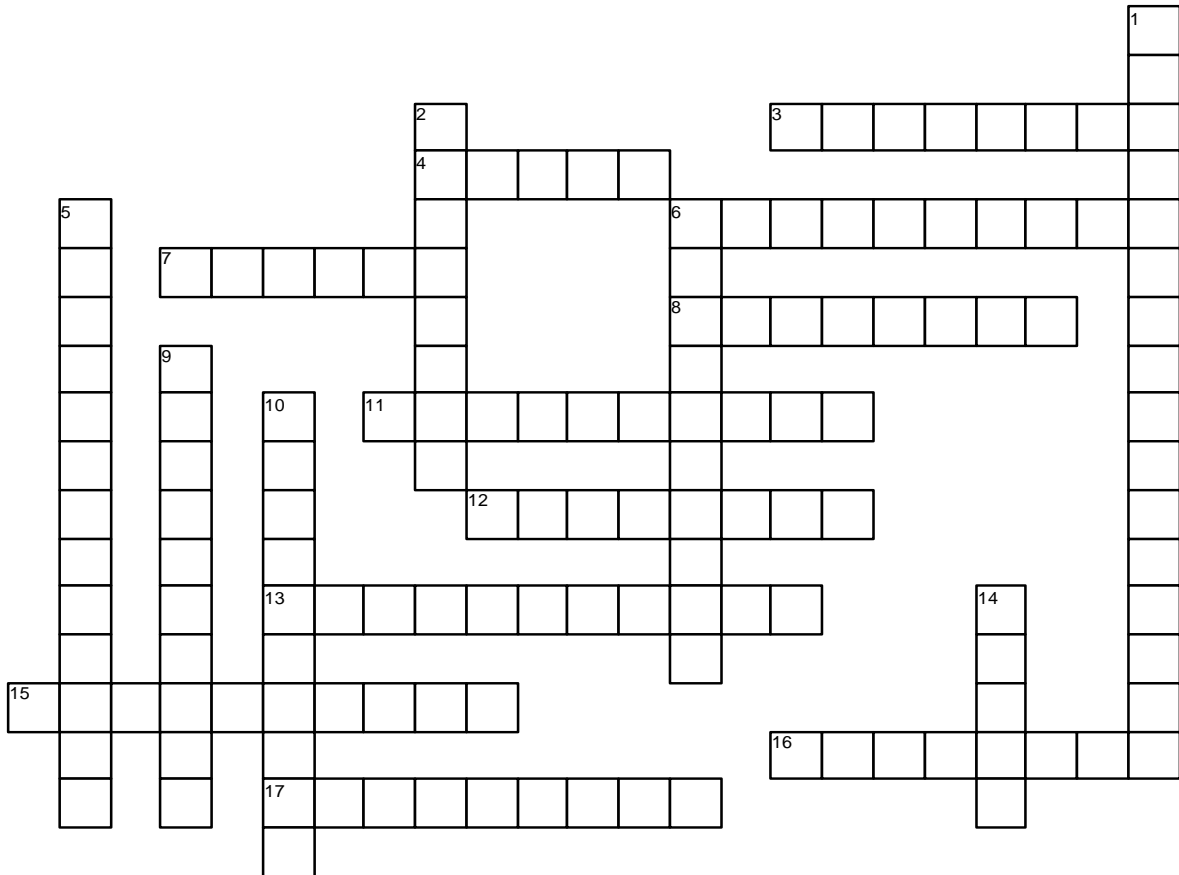


EVAP And EGR Systems

Chapter 80



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ACROSS

- 3 The purpose of the evaporative emission control system is to trap and hold gasoline vapors, also called _____ organic compounds (VOCs).
- 4 The recirculated exhaust gas is _____ (chemically inactive) and does not enter into the combustion process.
- 6 _____ recirculation (EGR) is an emission control system that lowers the amount of nitrogen oxides (NO_x) formed during combustion.
- 7 Most General motors and many other vehicles use a _____ EGR valve that contains a pulse-width modulated solenoid to precisely regulate exhaust gas flow and a feedback potentiometer that signals the PCM regarding the actual position of the valve.
- 8 A linear potentiometer on the top of the EGR valve stem indicates valve position to the PCM. This is called an _____ position (EVP) sensor.
- 11 _____ also called spark knock or ping, occurs when high pressure and heat cause the air-fuel mixture to ignite.
- 12 The _____ refueling vapor recovery (ORVR) system was first introduced on some 1998 vehicles. previously designed EVAP systems allowed fuel vapor to escape to the atmosphere during refueling.
- 13 The _____ control (EVAP) system includes the charcoal canister, hoses, and valves. these vapors are routed into a charcoal canister, then into the intake airflow, where they are burned in the engine, instead of being released into the atmosphere.
- 15 General motors used a _____ valve design on some engines. unlike vacuum-operated EGR valves, the digital EGR valve consists of three solenoids controlled by the powertrain control module (PCM). Each solenoid controls a different size orifice in the base—small, medium, and large.
- 16 A _____ pressure (FTP) sensor then monitors the rate with which vacuum increases in the system.
- 17 The canister _____ is a normally open valve and is closed only when commanded by the PCM during testing of the system.

DOWN

- 1 Some later-model Ford EGR systems, however, use a feedback signal provided by an EGR exhaust back pressure sensor that converts the exhaust back pressure to a voltage signal. This sensor is called a _____ EGR (PFE) sensor.
- 2 Exhaust gas recirculation (EGR) is an emission control system that lowers the amount of _____ oxides (NO_x) formed during combustion.
- 5 Many vehicles use a vacuum operated _____ pump (LDP) as part of the evaporative control system diagnosis equipment.
- 6 vacuum regulator valve (EVRV)
- 9 By a process called _____, the fuel vapor molecules adhere to the carbon surface.
- 10 The canister _____, also called the canister purge (CANP) solenoid, is normally closed and is pulsed open by the PCM during purging.
- 14 Most Fords use an EGR monitor test sensor called a _____ pressure feedback EGR (DPFE) sensor.