

# Fuel Injection Systems

## Chapter 31

**ACROSS**

5 The computer uses signals from the ignition switch and RPM signals from the ignition system to energize the \_\_\_\_\_ circuit.

11 A \_\_\_\_\_

\_\_\_\_\_ system delivers fuel from a nozzle into the air above the throttle plate.

13 Fuel pressure regulators on fuel-return-type fuel-injection systems are installed on the return side of the injectors at the end of the \_\_\_\_\_, or are built into or mounted upon the throttle-body housing.

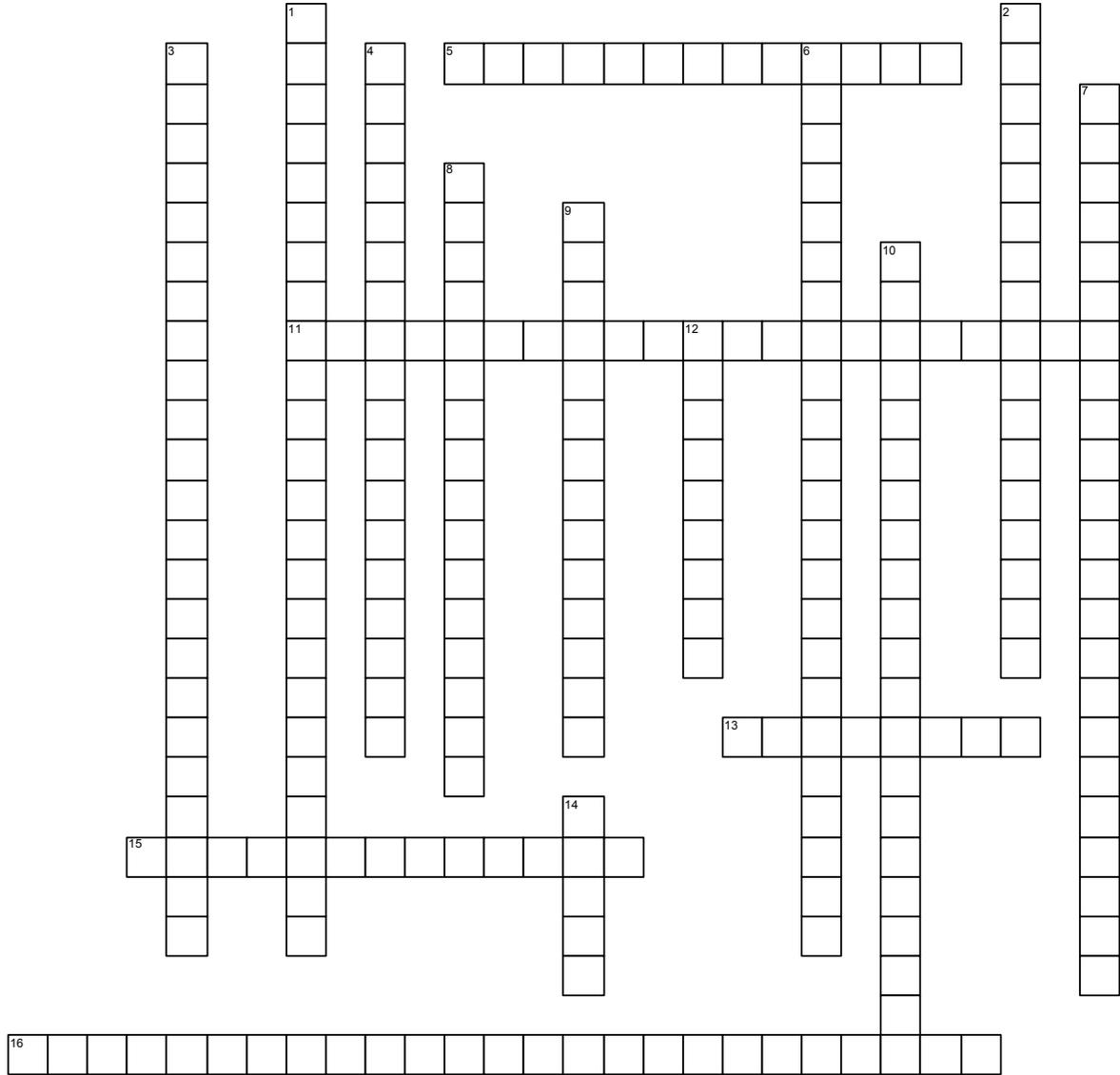
15 The longer the \_\_\_\_\_ are held open, the greater the amount of fuel that is injected into the cylinder.

16 Since about 2000, most vehicles are equipped with an \_\_\_\_\_

\_\_\_\_\_ system.

**DOWN**

1 The PCM moves the throttle based on movement of the driver's foot as determined by an \_\_\_\_\_



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\_\_\_\_\_ sensor which is part of the accelerator pedal assembly.

2 A \_\_\_\_\_ design uses a nozzle for each cylinder and the fuel is squirted into the intake manifold about 2 to 3

\_\_\_\_\_ inches from the intake valve.

3 Electronic fuel injection systems use a \_\_\_\_\_ to control the operation of fuel injectors and other functions based on information

sent from various sensors.

4 Port fuel-injection systems generally use an \_\_\_\_\_ to control idle speed.

6 An \_\_\_\_\_ injector is

simply a specialized solenoid.

7 \_\_\_\_\_ uses an injection nozzle that squirts fuel directly into each cylinder.

8 The computer usually controls the operation of the \_\_\_\_\_

\_\_\_\_\_ located inside, or near, the fuel tank by using an electric relay.

9 When the engine stops, most \_\_\_\_\_ units will retract outward to get ready for the next engine start.

10 The \_\_\_\_\_ typically consists of a spring-loaded, diaphragm-operated valve in a metal housing.

12 Fuel pressure is modulated by a combination of spring

pressure and manifold vacuum acting on the \_\_\_\_\_.

14 Port fuel injectors are serviced as an assembly only; no part replacement or service is possible except for replacement of external \_\_\_\_\_ seals.