

Fuel Injection Systems

Chapter 41

ACROSS

3 Port fuel-injection systems generally use an _____

_____ to control idle speed.

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

6 An _____ injector is simply a specialized solenoid.

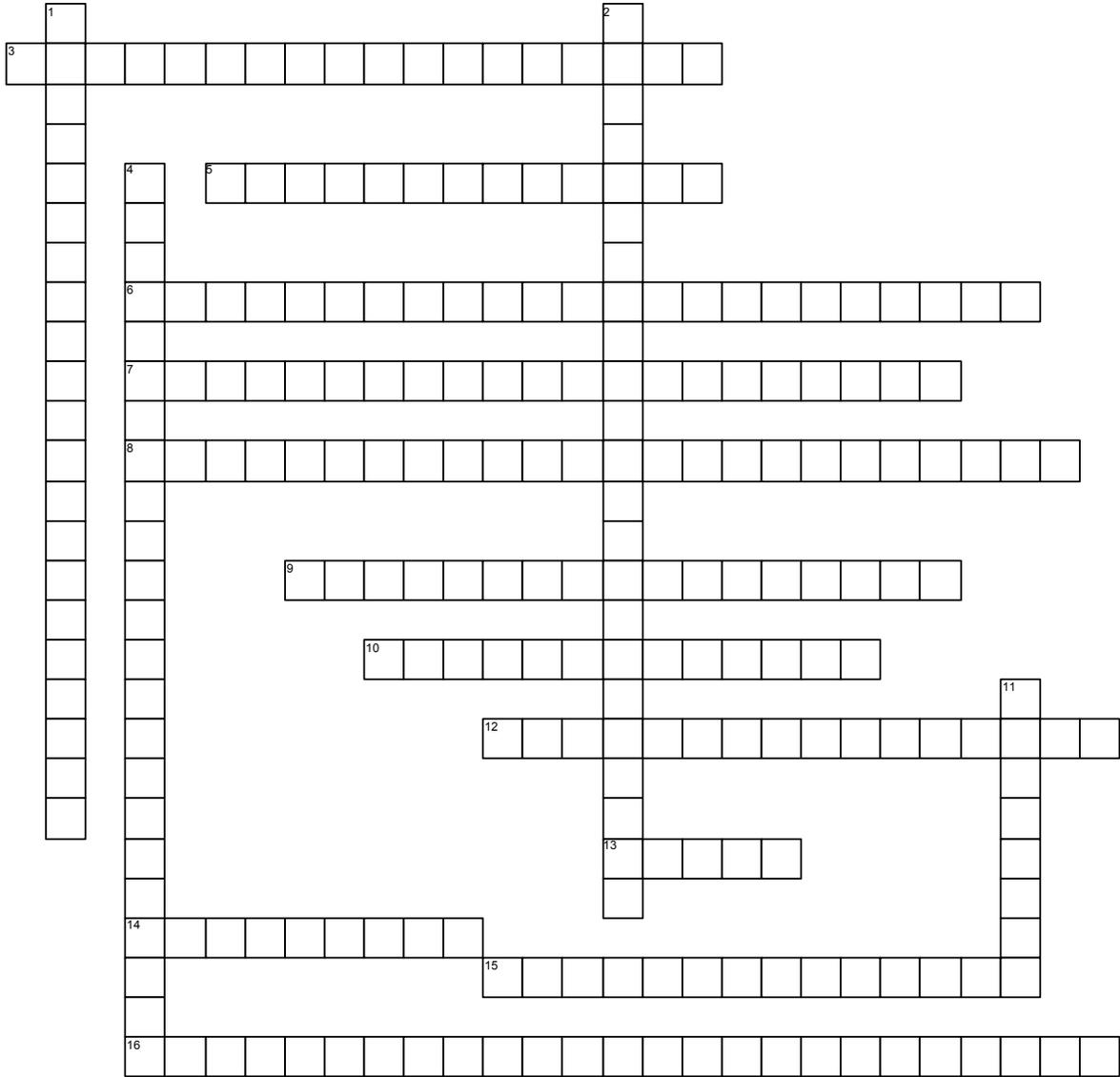
7 A _____ system delivers fuel from a nozzle into the air above the throttle plate.

8 The PCM moves the throttle based on movement of the driver's foot as determined by an _____

_____ sensor which is part of the accelerator pedal assembly.

9 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.

10 The longer the _____



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_____ are held open, the greater the amount of fuel that is injected into the cylinder.
12 The computer usually controls the operation of the _____ located inside, or near, the fuel

tank by using an electric relay.
13 Port fuel injectors are serviced as an assembly only; no part replacement or service is possible except for replacement of external _____ seals.
14 Fuel pressure is modulated

by a combination of spring pressure and manifold vacuum acting on the _____.
15 When the engine stops, most _____ units will retract outward to get ready for the next

engine start.
16 Since about 2000, most vehicles are equipped with an _____ system.
DOWN
1 The _____ typically

consists of a spring-loaded, diaphragm-operated valve in a metal housing.
2 _____ uses an injection nozzle that squirts fuel directly into each cylinder.

4 Electronic fuel injection systems use a _____ to control the operation of fuel injectors and other functions based on information sent from various sensors.

11 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.