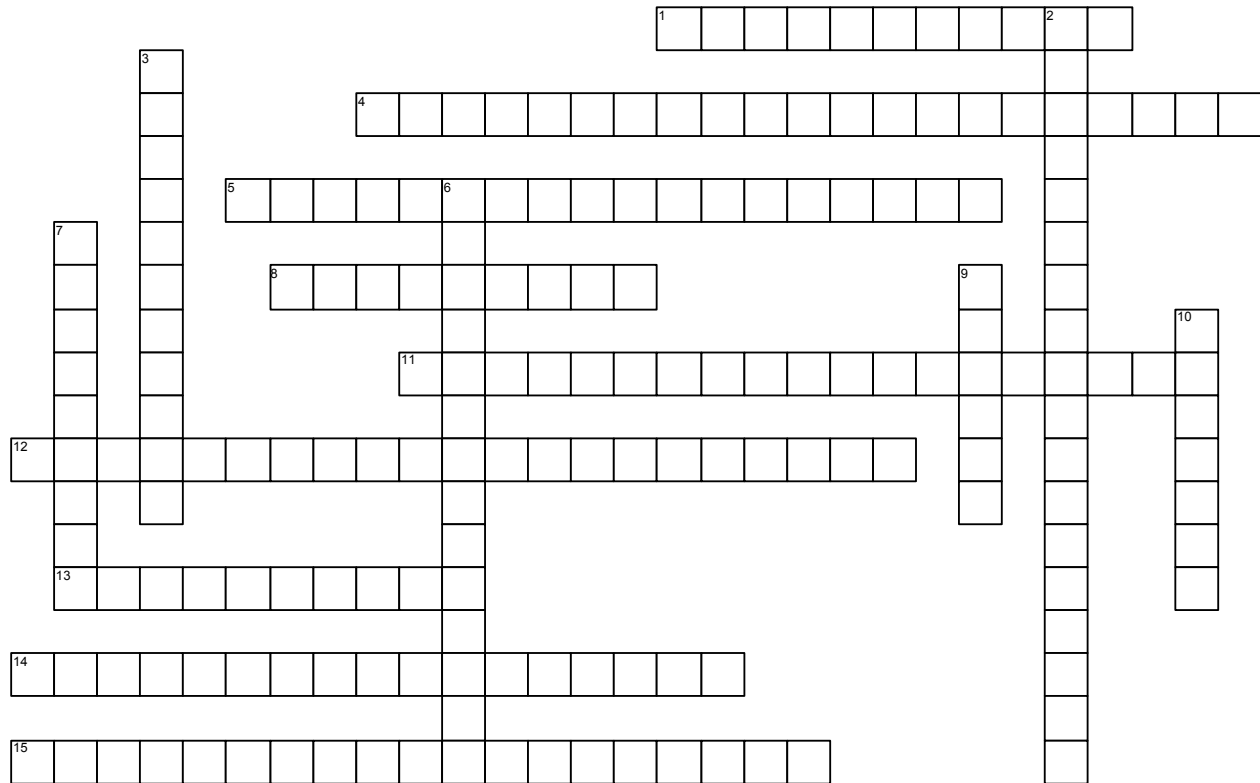


# Fuel-Injection System Diagnosis And Service

## Chapter 23



<http://jameshaldeman.com>

### ACROSS

- 1 A commonly used test for injector operation is to listen to the injector using a stethoscope with the engine operating at idle speed.
- 4 The \_\_\_\_\_ involves measuring the injector coil winding resistance.
- 5 Using a pressure transducer and a \_\_\_\_\_ allows the service technician to view the fuel pressure over time.
- 8 A \_\_\_\_\_ is designed to electrically replace the injector in the circuit and to flash if the injector circuit is working correctly.
- 11 In a \_\_\_\_\_-\_\_\_\_\_ injector-driven circuit, voltage is applied to the injector.
- 12 If the vacuum hose is removed from the \_\_\_\_\_-\_\_\_\_\_ when the engine is running, the fuel pressure should increase.
- 13 Due to the resistance and inductive reactance of the coil itself, it requires a fraction of a second for the coil to reach \_\_\_\_\_ or maximum current flow.
- 14 During port fuel-injection pressure regulator diagnosis, connect a \_\_\_\_\_-\_\_\_\_\_ to monitor the fuel pressure.
- 15 The \_\_\_\_\_ involves using an electrical timing device to pulse the fuel injectors for a given amount of time, usually 500 ms or 0.5 second, and observing the drop in pressure that accompanies the pulse.

### DOWN

- 2 Using a \_\_\_\_\_ and a digital storage oscilloscope allows the service technician to view the fuel pressure over time.
- 3 A \_\_\_\_\_-\_\_\_\_\_ type is typically used for TBI and some port low-resistance injectors.
- 6 An electronic stepper motor or pulse-width modulated solenoid is used to maintain the correct idle speed, this is often called the \_\_\_\_\_.
- 7 Normal \_\_\_\_\_ or percentage is usually 15 to 25.
- 9 Most port-fuel-injected engines use a \_\_\_\_\_ hose connected to the fuel-pressure regulator.
- 10 If gasoline is visible in the vacuum hose, the regulator is \_\_\_\_\_ and should be replaced.