

Name \_\_\_\_\_

**SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.**

1) List the ways fuel injectors can be tested.

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2) What is an injector pressure balance test?

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3) What does an injector voltage drop test indicate?

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4) List the steps necessary to test a fuel-pressure regulator.

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5) Describe why it may be necessary to clean the throttle plate of a port fuel-injected engine.

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## Answer Key

Testname: ENGINEPERF5\_SHORT30

- 1) Fuel injectors can be tested for proper resistance, voltage drop, and pressure drop, as well as observed on a DSO for proper waveform, using both voltage and current.  
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- 2) The pressure balance test involves using an electrical timing device to pulse the fuel injectors on for a given amount of time, usually 500 milliseconds or 0.5 seconds, and observing the drop in pressure that accompanies the pulse. If the fuel flow through each injector is equal, the drop in pressure in the system is equal.  
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- 3) The voltage drop across each injector should be within 0.1 volt of each other. If an injector has a higher-than-normal voltage drop, the injector windings have higher-than-normal resistance.  
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- 4) To test a fuel pressure regulator, the following steps will be necessary.  
Step #1 – Connect a fuel pressure gauge.  
Step #2 – Start the engine and observe the fuel pressure.  
Step #3 – Disconnect the vacuum line from the fuel pressure regulator and observe the pressure gauge. The pressure should increase about 10 psi.  
Step #4 – Using a hand-operated vacuum pump, test to see that the fuel pressure regulator can hold vacuum.  
Step #5 – Replace the rubber vacuum hose with a clean hose and start the engine. Check to see if there is fuel flowing through the clean hose, which would indicate a leak in the fuel pressure regulator.  
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- 5) The throttle body and throttle plate of a port fuel-injected engine should thoroughly cleaned and the IAC relearned as part of a thorough fuel system service.  
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