

Name \_\_\_\_\_

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

1) What is the purpose and function of exhaust system hangers?

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2) What are the three main jobs of the air cleaner and filter?

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3) How does a muffler quiet exhaust noise?

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4) What is a variable intake manifold?

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5) How can fuel-injected engine intake manifolds be tuned to improve engine performance?

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## Answer Key

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1) The muffler and tailpipe are supported with brackets, which help to isolate the exhaust noise from the rest of the vehicle.

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2) The three main jobs of the air cleaner and filter include:

- Clean the air before it is mixed with fuel
- Silence intake noise
- Act as a flame arrester in case of a backfire

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3) A muffler quiets the exhaust by smoothing out the high-pressure exhaust pulses and allowing them to be released at an even and constant rate.

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4) Variable intake manifolds, commonly called a variable-length intake manifold (VLIM), allow the engine to produce a higher level of torque and horsepower over a wide range of engine speeds.

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5) Intake manifold runners are tuned to improve engine performance.

- Long runners build low-RPM torque.
- Shorter runners provide maximum high-RPM power.

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