

Chapter 4

NAME _____

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

1. What features are different between an engine used in a hybrid vehicle and the engine used in a conventional vehicle

2. What is difference between an Atkinson cycle and a conventional four stroke cycle engine?

3. How is the ICE kept operating to prevent the idle stop mode without using a scan tool?

4. How does the changing of the valve timing or opening affect the engine?

5. What is an indexed spark plug?

Answer Key

Testname: EV1SHORT04

1. The features that are different between an engine used in a hybrid vehicle compared to a conventional vehicle include:
 - Atkinson cycle
 - piston pin offset
 - offset crankshaft

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2. In the Atkinson cycle that remains in use today is that the intake valve is held open longer than normal to allow a reverse flow into the intake manifold. This reduces the effective compression ratio and engine displacement and allows the expansion to exceed the compression ratio while retaining a normal compression pressure.

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3. There are several ways to disable idle-stop and keep the ICE running such as opening the hood or by following a series of steps as described in the owner's manual.

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4. By varying the intake camshaft timing, engine performance is improved. By varying the exhaust camshaft timing, the exhaust emissions and fuel consumption are reduced.

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5. Some use spark plugs that are indexed so the open side of the spark is pointed toward the intake valve for maximum efficiency.

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