Electric and Hybrid Electric Vehicles, 1st Edition

Chapter 5

NAME _____

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

1. What is the purpose of the acoustical foam in the noise reducing tire?

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2. What is the purpose of the hybrid vehicle maintenance mode?

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3. Why do most manufactures of hybrid vehicles use full synthetic engine oil

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4. Why do most manufacturers recommend premixed coolant when servicing the hybrid or electric vehicle cooling systems?

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5. Why does the base brake system require more frequent maintenance in the “salt belt” portion of the country?

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Answer Key
Testname: EV1SHORT05

1. The purpose of a noise reducing tire is to eliminate noise in the 130—240 Hz range that would be normally covered up by normal engine noise in a vehicle with an internal combustion engine. The noise reduction is accomplished by adding acoustical foam to the inside of a tire. The sound is created within the structure of the tire itself and is not transmitted through the air, but rather through the chassis of the vehicle.
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2. There are times when the service technician needs to bypass the idle-stop feature and keep the engine running. These conditions can include the following:
   - Checking air-conditioning pressures
   - Bringing the engine to operating temperature
   - Safety inspection of the exhaust system

   Depending on the manufacturer, this mode is called any of the following:
   - Service mode
   - Maintenance mode
   - Inspection mode

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3. Always use the specified oil viscosity. Most hybrid electric vehicles require either SAE 0W-20, SAE 0W-16, or SAE 5W-20. Most hybrid vehicles use a full synthetic oil. Using the specified oil viscosity is important because the engine stops and starts many times and using the incorrect viscosity not only can cause a decrease in fuel economy, but also could cause engine damage.
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4. Always check service information for the exact procedure to follow. Most vehicle manufacturers will recommend using premixed coolant because using tap water (half of the coolant) that has minerals could cause corrosion issues.
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5. The base brakes on many hybrids and electric vehicles are often found to be stuck or not functioning correctly because the brakes are not doing much work and can rust. The use of regenerative braking decreases the amount of heat generated at the brake assembly and reduces the amount of evaporation of moisture. This is a very common occurrence in the part of the country that the auto manufacturers refer to as the “salt belt.”
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