

Automotive Technology 7<sup>th</sup> Edition  
Chapter 131: EV and HEV Transmissions  
Short Answer Quiz

Name:

Date:

1. How does the Chevrolet Bolt ensure proper lubrication and cooling of its transmission system?
2. Can you describe the operational principles of a single-speed transmission in a typical electric vehicle and how it differs from traditional multi-speed transmissions in internal combustion engine vehicles?
3. In the context of a 2011 Nissan Leaf, explain the procedure for maintaining the reducer, including the type of lubricant used and the approximate quantity required.
4. Discuss the design considerations for electric vehicle transmissions that allow for a balance between acceleration and top speed, and how manufacturers typically prioritize these aspects.
5. Explain the role of the resolver in a hybrid electric vehicle's transmission system and how it contributes to the vehicle's operation.

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6. Describe the service procedures for the two-mode transmission in a GM hybrid electric vehicle, including routine maintenance and diagnostic procedures.

7. In a Toyota/Lexus hybrid electric vehicle, what functions does MG1 serve, and how does it contribute to the vehicle's hybrid system?

8. Detail the operation of the oil pump in the Toyota/Lexus power-split hybrid system and its relationship with the ICE and MG2.

9. What capabilities does the electric motor provide in the Ford/Lincoln 10R80 MHT transmission, and how does it enhance the vehicle's performance?

10. For a front-wheel-drive hybrid electric vehicle with an electric rear axle, explain the all-wheel-drive capabilities and the additional components that support this function.