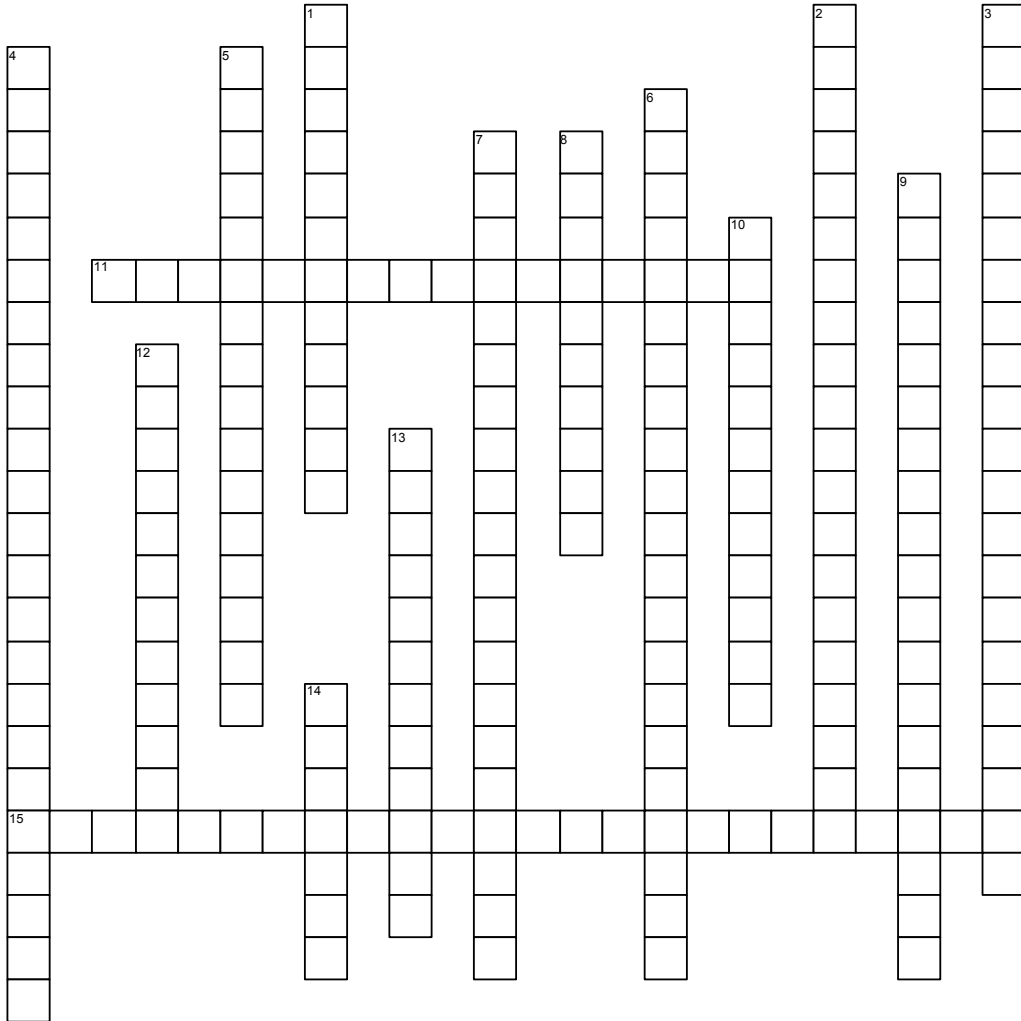


Introduction To Hybrid Vehicles

Chapter 89



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ACROSS

- 11 One simple system developed by Valeo uses a starter/alternator that is used as a conventional alternator when the engine is running, and as a starter to start the engine by transmitting power through the drive belt system; this type of system is often called a _____ system.
- 15 The _____ used in a hybrid vehicle can be either gasoline or diesel, although only gasoline-powered engines are currently used in hybrid vehicles.

DOWN

- 1 In a _____ design, the sole propulsion is by a battery-powered electric motor, but the electric energy for the batteries comes from another on-board energy source, such as an internal combustion engine.
- 2 In a _____, multiple propulsion sources can be combined, or one of the energy sources alone can drive the vehicle.
- 3 The belt system, commonly called the _____, is the least expensive system that can be used and still claim that the vehicle is a hybrid. □

- 4 Another name for EVs was _____.
- 5 Early _____ used lead-acid batteries, an electric traction motor, and a mechanical controller. □
- 6 A _____ uses both an internal combustion engine and an electric motor to propel the vehicle. □
- 7 The Toyota and Ford hybrids are classified as _____ because they can operate using electric motor power alone or with the assist of the ICE.
- 8 A _____ will incorporate idle stop and regenerative braking but is not capable of using the electric motor to propel the vehicle on its own without help from the internal combustion engine.
- 9 Legislation was passed in California that included revisions within the _____ mandate.
- 10 A _____ uses 144- to 158-volt batteries that provide for engine stop/start, regenerative braking, and power assist.
- 12 The motor-generator is larger than a standard starter motor so more torque can be generated in the cranking mode, also referred to as the _____.
- 13 The _____ turns off the engine when the vehicle is stopped.
- 14 The _____ in many cities is reserved for use by vehicles that are carrying more than one occupant as a way to encourage carpooling and the use of public transportation.