
Vehicle Electrification System Standards

I. Vehicle Level Vehicle Electrification High Voltage System Architectures

I.a Acronyms and Definitions

Description:

For a technician to navigate the technologies within vehicle electrification, it is imperative that they accurately identify and communicate information about a vehicle repair or diagnostic by using correct acronyms and definitions within their communications.

Outcome (Goal):

Students will be able to properly articulate, through verbal and written communication, what constitutes each of the different vehicle electrification categories.

Objective:

When provided a diagram of a vehicle, with its component ratings (i.e. hp, kW, A-h, engine, on-board charger, etc.) students will identify and articulate the correct vehicle type.

Task:

When provided an electrified vehicle, students will use OEM service information and their visual recognition ability to correctly identify the category or type of vehicle electrification system.



Type	Acronym	Definition
Hybrid Electric Vehicle	HEV	A road vehicle that can draw propulsion energy from both of the following sources of stored energy: <ol style="list-style-type: none"> 1. A consumable fuel 2. An RESS that is recharged by an electric motor-generator system, an external electric energy source, or both
Plug-In Hybrid Electric Vehicle	PHEV (PHV)	An electric vehicle that can be recharged with an off-board source of electricity, it includes both battery electric vehicles (BEV) and plug-in hybrid electric vehicles (PHEV)
Range Extender Extended Range Electric Vehicle	LD/MD/HD EREV	A small engine-powered generator or auxiliary power unit (APU) added to a battery electric vehicle to produce a plug-in electric vehicle (PEV). This generator sustains vehicle operation beyond the range provided by the batteries alone.
Battery Electric Vehicle	BEV	A vehicle that receives its on-board propulsion power solely from batteries, unlike a hybrid vehicle that may receive a portion of its power from a separately fueled power source, such as an internal combustion engine.
Fuel Cell Electric Vehicle	FCEV	A vehicle that receives propulsion energy from an onboard fuel cell power system (hydrogen). It is assumed that the fuel cell system is using a small battery pack (1.3 – 1.6 kw-h) for acceleration.



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