Vehicle Electrification System Standards

I. Vehicle Level Vehicle Electrification High Voltage System Architectures

I.c HEV, PHEV, BEV, and FCEV Powertrain Systems Operation

Description:

Correctly articulate, through verbal and/or written communication, the operational modes of the vehicle electrification systems.

Provide animated graphic files or video on each architecture powertrain operation.

Tools:

Acquire animations or video from OEM to reduce cost. Will need copyright permissions

Hybrid Electric Vehicle (HEV)

OEM Acronyms:

HEV, BAS, FAS

Outcome:

Students will be able to identify and describe each of the HEV system sub-category derivative types and associated operational modes, including all sub-systems

Objective:

Students will be supplied vehicle diagrams and graphics, cite each HV component, and correctly articulate the primary operating modes of each HEV derivative.

Task:

Students will utilize OEM vehicle service information, new model information, and online OEM or equivalent (i.e., Mitchell, Identifix) resources to complete the diagram and graphic assignments and modes of operation.

Plug-In Hybrid Electric Vehicle (PHEV)

OEM Acronyms:

PHEV, FAS, EREV

Outcome:

Students will be able to identify and describe each of the PHEV system sub-category derivative types and associated operational modes, including all sub-systems

Objective:

Students will be supplied vehicle diagrams and graphics, cite each PHEV component, and correctly articulate the primary operating modes of each PHEV derivative.

Task:

Students will utilize OEM vehicle service information, new model information, and online OEM or equivalent (i.e., Mitchell, Identifix) resources to complete the diagram and graphic assignments and modes of operation.

Battery Electric Vehicle (BEV)

OEM Acronyms:

BEV

Outcome:

Students will be able to identify and describe BEV operational modes, including all sub-systems.

Objective:

Students will be supplied vehicle diagrams and graphics, cite each BEV component, and correctly articulate the primary operating modes.

Task:

Students will utilize OEM vehicle service information, new model information, and online OEM or equivalent (i.e., Mitchell, Identifix) resources to complete the diagram and graphic assignments and modes of operation.

Fuel Cell Electric Vehicle (FCEV)

OEM Acronyms:

FCEV

Outcome:

Students will be able to identify and describe FCEV operational modes, including all sub-systems.

Objective:

Students will be supplied vehicle diagrams and graphics, cite each FCEV component, and correctly articulate the primary operating modes.

Task:

Students will utilize OEM vehicle service information, new model information, and online OEM or equivalent (i.e., Mitchell, Identifix) resources to complete the diagram and graphic assignments and modes of operation.

To comment or offer suggestions on this standard, contact Ken Mays:

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