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## Vehicle Electrification System Standards

### III. High Voltage Vehicle Safety Systems

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#### III.d High Voltage Bus Discharge Systems

##### OEM Acronyms:

n/a

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##### Description:

The high voltage bus discharge consists of a passive and (for most OEMs) an active bus discharge circuit. Both discharge circuits are designed to discharge stored capacitive energy in components on the high voltage bus after the vehicle is powered OFF. This energy must be discharged prior to a technician breaching the high voltage system to ensure there is no exposure to high voltage when interfacing with components on the high voltage bus.

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##### Outcome (Goal):

Students will verify that the high voltage bus discharge system is operational.

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##### Objective:

When provided with a hybrid, plug-in, or electric vehicle, students will verify the high voltage bus discharge circuits are operating correctly.

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##### Task:

Students will disable the high voltage system, disassemble the component that serves as the high voltage distribution center, defeat the interlock circuit (if necessary), and



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measure bus voltage with a DVOM when the vehicle is powered ON and OFF to observe the operation of the bus discharge circuits.

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**Required Special Tools and/or Equipment to Complete Task:**

OEM service information; serial data tool; PPE; DVOM; jumper wire; hand tools.

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**Instructor Demonstrations (System Operation, Testing, Servicing, Repair):**

n/a

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**Information Resources to support Tasks, Demonstrations, Repairs, etc.:**

OEM service information

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**Suggested Vehicle for Tasks and Demonstrations:**

n/a

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**Governing Standards (Safety, Testing, Diagnostics or Repair):**

Best practice.

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**Industry Resource Organization:**

- Society of Automotive Engineers (SAE)
  - Institute of Electrical & Electronic Engineers (IEEE)
  - International Electrotechnical Commission (IEC)
  - American Society for Testing and Materials (ASTM)
  - Occupational Safety & Health Administration (OSHA)
  - National Fire Protection Association (NFPA)
  - Underwriters Laboratories (UL)
  - Federal Motor Vehicle Safety Standard (FMVSS)
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To comment or offer suggestions on this standard, contact Ken Mays:

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