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## Vehicle Electrification System Standards

### II. High Voltage Safety and Personal Protective Equipment

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#### II.e High Voltage Electrical Gloves In-Service Care and Inspection

##### OEM Acronyms:

PPE – Personal Protective Equipment

(Safety Glasses not listed here – it is assumed this is covered in general lab requirements documents)

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##### Description:

Performing live measurements on high voltage systems using high voltage electrical gloves and over-leather gloves that meet the minimum voltage threshold and are in compliance.

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##### Outcome (Goal):

Students shall be able to determine if high voltage gloves in the field are in compliance by visual inspection.

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##### Objective:

The student will visually inspect and field test a pair of high voltage gloves and determine if the gloves are compliant with standards guidelines.

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### Task:

Using a pair of high voltage gloves, complete the inspection and field testing of the gloves using the proper procedures and standards as per the guideline.

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

Class 0 high voltage gloves; leather over-gloves

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

- Demonstrate the proper procedure for inspecting and field-testing Class 0 high voltage gloves.
  - Review how to select and implement a testing rotation plan with a qualified NAIL certified glove supplier.
  - Show video of how high voltage gloves are tested when being sent in at the 6-month inspection/testing interval.
  - Show video of high voltage gloves being tested that have different dielectric failure points (good, marginal-fail, complete-fail).
  - Use high voltage gloves that are mechanically/physically damaged to show various failure modes
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### Information Resources to support Tasks, Demonstrations, Repairs, etc.:

North American Independent Lab (NAIL) Certified Supplier testing guidelines (e.g. Skarshaug, Hi-Line, DiVal).

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### Suggested Vehicle for Tasks and Demonstrations:

n/a

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

OSHA 1910.269; NFPA 70E; OSHA 1910.137; ASTM 496-14a

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Northwest Engineering and Vehicle Technology Exchange (NEVTEX)

Advanced Vehicle Technician Standards Committee (AVTSC)

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)

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