Electric Vehicle Repair Safety Checklists

Failure to follow electric vehicle repair safety procedures, or not wearing the right PPE, can lead to electrocution, burns and shocks. These injuries can be significant and even fatal. Keep the following checklists handy to help ensure your team uses the right processes and equipment when repairing electric vehicles.

Procedure Safety Checklist

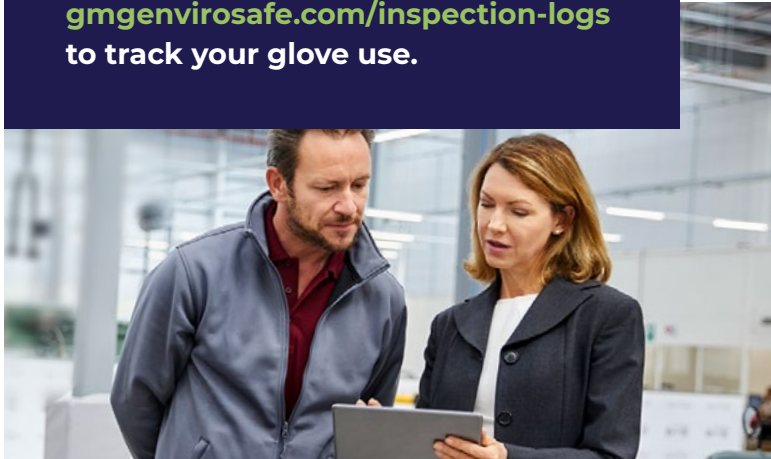
- ☐ **Is the battery compromised?**
  If so, the vehicle should be isolated at least 50 feet from any other flammable or combustible materials.
- ☐ **Can the car be started?**
  Place keys or remote starters safely away, where they can't accidentally be used or activated during the repair. Use "Service Mode" to ensure the customer does not accidentally start the vehicle remotely.
- ☐ **Is the battery still connected?**
  Always disconnect the vehicle's high-voltage (HV) battery before repairs. The location of the disconnect varies for every vehicle make and model, so refer to the manufacturer's manual if you are uncertain.
- ☐ **Is the car charged?**
  The system should be de-energized before repair work is begun. Use a high-voltage digital volt and OHM meter (DVOM) to check that all the charge has had time to drain from the capacitors. De-energization often requires a high-voltage technician.
- ☐ **Is the technician conductive?**
  Technicians should remove all conductors from their person including watches, jewelry, piercings, keys, money clips, phones and other metals or metal conductors.
- ☐ **Can the battery overheat?**
  Avoid excessive and prolonged heat during the repair process, and be aware of each manufacturer's specifications. For example, Ford says temperatures above 140 degrees can damage their batteries. For that reason, EVEs cannot be cured in a typical paint booth bake cycle and many car manufacturers, including Audi, Lexus, Tesla, Toyota and Ford have released specific warnings about baking temperatures.

PPE Safety Checklist

Technicians should wear:

- ☐ **Footwear**
  Electrical hazard protection starts from the floor, up. Footwear rated for ASTM F2413-11 EH electrical hazards can protect the occupant from 18,000 volts at 60 hertz of alternating current for a minute, or to 750 volts of continuous protection.
- ☐ **Face shields**
  Safety goggles aren't enough protection. A technician should wear a Class 2 Arc Flash Face Shield to protect against any potential threats.
- ☐ **Lineman's gloves**
  Wearing Class 0 lineman's gloves are particularly important to prevent accidental shock when disconnecting the breaker. You'll want to inspect the gloves for defects before wearing them, every time. Even a pinhole can be a big danger to sweaty hands, and holes that small might be hard to detect. A pair of leather work gloves must be slipped over the lineman's gloves for additional protection.

GMG EnviroSafe provides a series of inspection logs to help track PPE compliance including a lineman's gloves test log. Download it at gmgenvirosafe.com/inspection-logs to track your glove use.



1658 N. Milwaukee Avenue, Suite 287, Chicago, IL 60647
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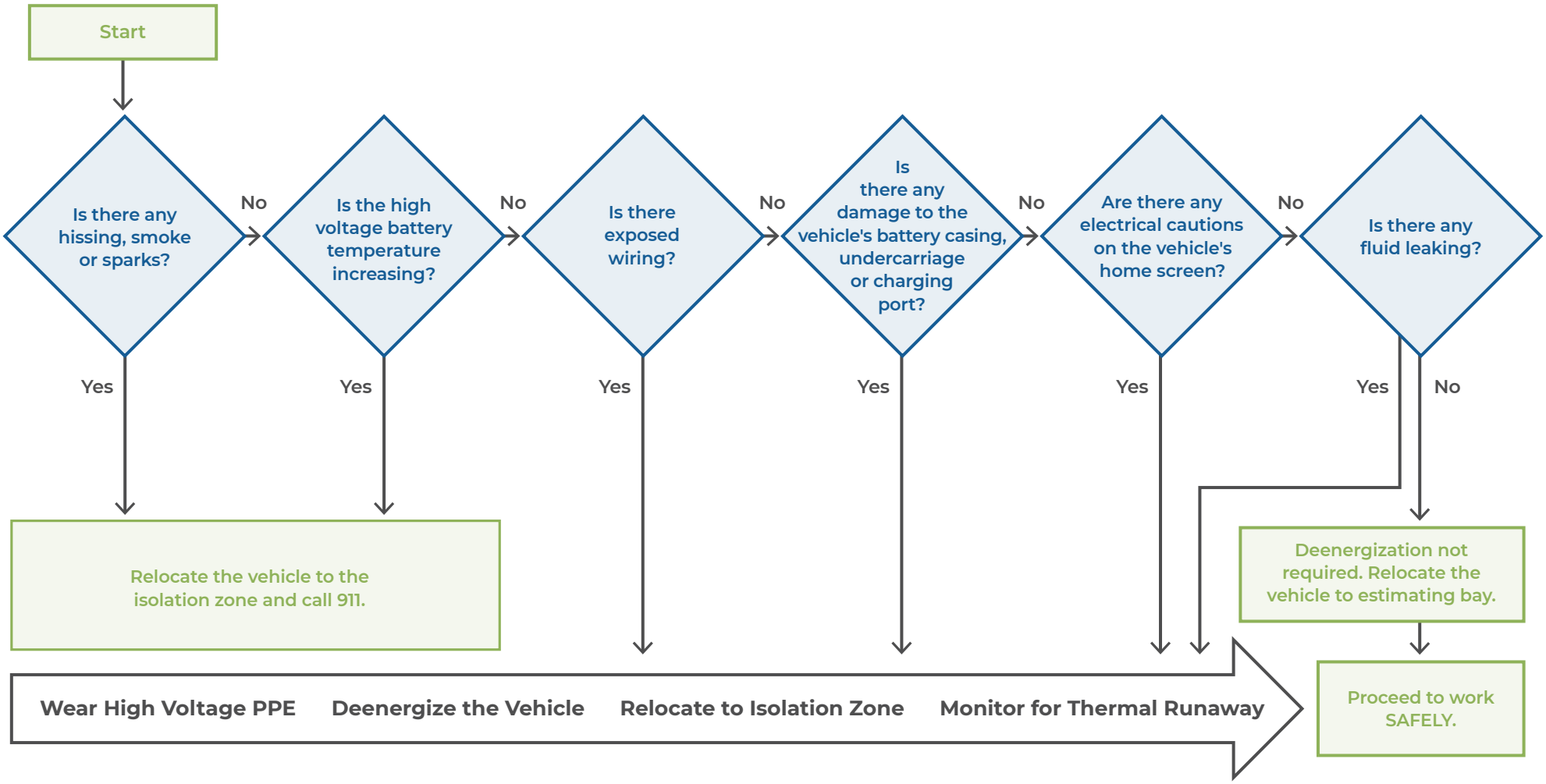
Decision Tree
Electric Vehicle Repair Safety

Is this electric vehicle safe to write an estimate?



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Lineman's Gloves Test Log

Hybrid Electric Vehicles

The employer shall certify that the electrical protective equipment has been tested in accordance with the requirements of OSHA 1910.137. Gloves should be tested every 6 months by an official testing facility. OSHA states that the gloves may not be used if they haven't been tested within the previous 12 months. They should also be tested by the tech before each use for any air leaks from pinholes, punctures or tears.

Date	Testing Facility Name	Testing Facility Address	Results	Manager's Signature
1/1/2014	Example Testing Facility	123 Main Street, Chicago, IL 60647	Pass	*Brandon C. Thomas*

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