

# Electric and Hybrid Vehicle Quick Reference Fire Service Edition



INITIAL
RESPONSE
ACTIONS:

Conduct an Initial Scene Assessment to identify hazards.

Then: 1. **IDENTIFY** the drive system.

- 2. **IMMOBILIZE** the vehicle.
- 3. **DISABLE** high voltage & SRS.



# **IDENTIFY**

**BADGES:** 





**LABELS:** 





#### **INSTRUMENTS:**





# TO:01 SPECIAL SPECIAL

#### **COMPONENTS:**

Orange Cables
= High Voltage



## **IMMOBILIZE**

1. Chock wheels



2. Set Emergency **BRAKE** 



3. Place vehicle in PARK





### DISABLE

1. Ensure ignition is OFF\*





- 2. Disconnect 12V battery
  - \*If vehicle is equipped with proximity key, move it at least 16 feet away.





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### GENERAL WARNING AND CAUTIONS

- Never cut orange high voltage (HV), or yellow or blue medium (MV) voltage cabling.
   Never touch damaged or submerged HV or MV cables or components.
- Lack of engine noise in most hybrids and electrics does not mean that the vehicle is OFF. Silent movement or instant restart capability exists until vehicle is fully shut down.



### **SUBMERSION**

Vehicle chassis is safe to touch.



- High voltage (HV) system is isolated from chassis.
- Do not touch submerged HV cables or components.

### FIRE

 High voltage (HV) battery fires may take much longer to extinguish than conventional fires.



- Water is the best extinguishing agent.
- Establish a water supply from hydrant or static source.
- Smoke is toxic.

### POST INCIDENT

- Tow with a flatbed. Towing with drive wheels on ground may cause electrical fire.
- If high voltage (HV) battery is damaged, store vehicle at least 50 ft. from structures or vehicles.



 Monitor for signs of HV battery damage (inform tow operator).

For more detailed information and vehicle-specific alternate shutdown methods, see NFPA's **EV Emergency Field Guide** 

# DAMAGED HIGH VOLTAGE BATTERIES

- High voltage (HV) electrolyte leakage should be minimal, but is likely caustic and/or flammable if released.
- Warning signs of hazardous damage: sparks, smoke, Increasing temperature,

gurgling/ bubbling

sounds from HV battery.

 If any of these signs are observed, ventilate the vehicle immediately. The HV battery may be giving off harmful/ flammable gases and may become a delayed fire hazard.