



SURFACE VEHICLE RECOMMENDED PRACTICE

J3108™

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xEV Labels to Assist First and Second Responders, and Others

RATIONALE

High voltage electrification of the vehicle industry is increasing at a rapid pace globally. This propulsion technology in the automotive sector has raised new concerns for responders interfacing with xEVs. To assist responders to safely work in and around xEVs with this technology, several good practices have been identified by the automotive and responder industries to consistently and deliberately identify key components of the high voltage system and high voltage disabling points. This recommended practice has been created to document industry best practices for labeling key safety information on xEVs.

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1. SCOPE

This recommended practice prescribes clear and consistent labeling methodology for communicating important xEV high voltage safety information. Examples of such information include identifying key high voltage system component locations and high voltage disabling points. These recommendations are based on current industry best practices identified by the responder community. Although this recommended practice is written for xEVs with high voltage systems, these recommendations can be applied to any vehicle type.

2. REFERENCES

2.1 Applicable Documents

NOTE: Users should ensure that the latest revision and legislative updates of these documents is being referenced.

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

SAE J2936 SAE Electrical Energy Storage Device Labeling Recommended Practice

SAE J1715 Hybrid Electric Vehicle (HEV) & Electric Vehicle (EV) Terminology

2.1.2 ISO Publications

Copies of these documents are available online at <http://webstore.ansi.org/>.

ISO 7010 (2011) Graphical symbols -- Safety colours and safety signs -- Registered safety signs

2.1.3 ASME Publications

Available from ASME, P.O. Box 2900, 22 Law Drive, Fairfield, NJ 07007-2900, Tel: 800-843-2763 (U.S./Canada), 001-800-843-2763 (Mexico), 973-882-1170 (outside North America), www.asme.org.

ASME A17.1-2013 Safety Code for Elevators and Escalators

2.2 Related Publications

A list of publications is provided for informational purposes only. These publications are not a required part of this SAE Recommended Practice.

2.2.1 ISO Publications

Copies of these documents are available online at <http://webstore.ansi.org/>.

ISO 17840-1 (2015) Road vehicles -- Information for first and second responders -- Part 1: Rescue sheet for passenger cars and light commercial vehicles

2.2.2 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

SAE J1673 High Voltage Automotive Wiring Assembly Design

3. DEFINITIONS

Except as noted below, all definitions are in accordance with SAE J1715.

Additional definitions:

3.1 Term

FIRST RESPONDERS: Include, but is not limited to, fire departments, rescue squads, emergency medical personnel, law enforcement personnel, and in some instances military personnel where the personnel are trained in assessing and treating injuries.

DISABLE POINT: Specific location(s) in the vehicle for responders to disable the high voltage system(s) by disconnecting or cutting an electrical connection(s); i.e., service disconnect, fuse, or cutting zone. It should be noted, in most mechanizations, the RESS will still have high voltage after the disable point has been activated.

HIGH VOLTAGE SYSTEM: A vehicle system inclusive of the battery system and high voltage components (e.g., inverter modules, high voltage cables, etc.) powered by the battery system.

RETROREFLECTIVE/RETROFLECTIVE: The reflection of light in which the reflected rays are preferentially returned in the direction close to the opposite of the direction of the incident rays, with this property being maintained over wide variations of the direction of the incident rays.

SECOND RESPONDERS: Include, but is not limited to, tow/recovery personnel, vehicle storage operators, repair/ service technicians, dismantlers and auto salvage personnel.

SRS: Supplementary Restraint System (SRS) is the passive vehicle occupant safety system in a vehicle (e.g., airbags) which supplement the use of seat belts.

xEV: Any electrified propulsion vehicle with a high voltage system, including, but not limited to hybrid electric vehicles, plug-in hybrid electric vehicle, plug-in electric vehicle, battery electric vehicle, fuel cell electric vehicle, and electric vehicle.

4. RESPONDER LABEL CHARACTERISTICS

This section provides recommendations for standard features to be incorporated into labels whose intended audience are primarily first responders, however, this information is beneficial to second responders as well. These characteristics cover responder symbols, color codes, placement, and legibility.

4.1 Fire Helmet Icon

A common industry practice for indicating a label is intended for a responder is to include a red fire helmet icon on the label (see Figure 4 for an example). The fire helmet was chosen since fire fighters are typically the group involved with extrication of occupants from a vehicle post-crash. For consistency, the fire helmet should be representative for all xEV responder labels rather than targeting a symbol for police, medical and/or towing personnel, etc. An example of the fire helmet icon is shown in Figure 1.



Figure 1 - Example of red fire helmet icon