LUCAS-NÜLLE

IMI INSTITUTE OF THE MOTOR INDUSTRY EST? 1920

FIRST RESPONDER TRAINER FOR HIGH VOLTAGE VEHICLES

EV2.1: Electric/Hybrid Vehicle Hazard Management for Emergency and Recovery Personnel

1st Edition

PROTECTING OUR FIRST RESPONDERS

The volume of hybrid and electric vehicles on our roads is increasing rapidly. If involved in an accident, the high voltage systems on such vehicles can present some very specific dangers. Hence, it is vital that our First Responders are equipped with the knowledge and skills to avoid further endangering their own lives and the lives of others.

QUALITY TRAINING SOLUTIONS

A key factor in society fully embracing the transition to electric vehicles, is confidence in the specialist knowledge and skills of our Emergency Services to enable them to respond with the professionalism for which they are renowned.

Lucas-Nülle GmbH and the Institute of the Motor Industry (IMI) have partnered to create the ultimate training solution for First Responders. The package consists of a unique version of the CarTrain hardware with which important safety critical skills can be acquired in complete safety. Alongside this runs the purpose-built eLearning software delivering the important supporting knowledge, such as vehicle identification, safe powering down of high voltage systems, handing of thermal runaway and much more!

The package is perfectly combined with candidates achieving an IMI electric vehicle qualification specifically designed for First Responders and Recovery Personnel. Hence our nation’s heroes not only gain the knowledge and skills to keep themselves and others safe, but also a regulated qualification to demonstrate their competence and commitment to professionalism in a specialist subject area.

SAFE HANDLING OF ELECTRIC VEHICLES

This unique training package will provide candidates with essential specialist knowledge and skills such as:

Identification

- Identification of hybrid and electric vehicles upon arrival on scene
- Identification of high voltage components on an accident damaged vehicle

Assessing Hazard and Risk Potential

- Hazard assessment prior to rescue, recovery or salvage
- Understanding the full hazard potential of high voltage vehicles
- Assessment of the hazard potential of high voltage batteries
- Risk assessment for transporting and storage of damaged high voltage vehicles

Vehicle Recovery

- Correct and safe powering down of high voltage systems
- Procedure for damaged HV vehicles
- Working safely on and around damaged high voltage vehicles

Occupant Rescue

- Occupant rescue procedure
- Special First Aid measures

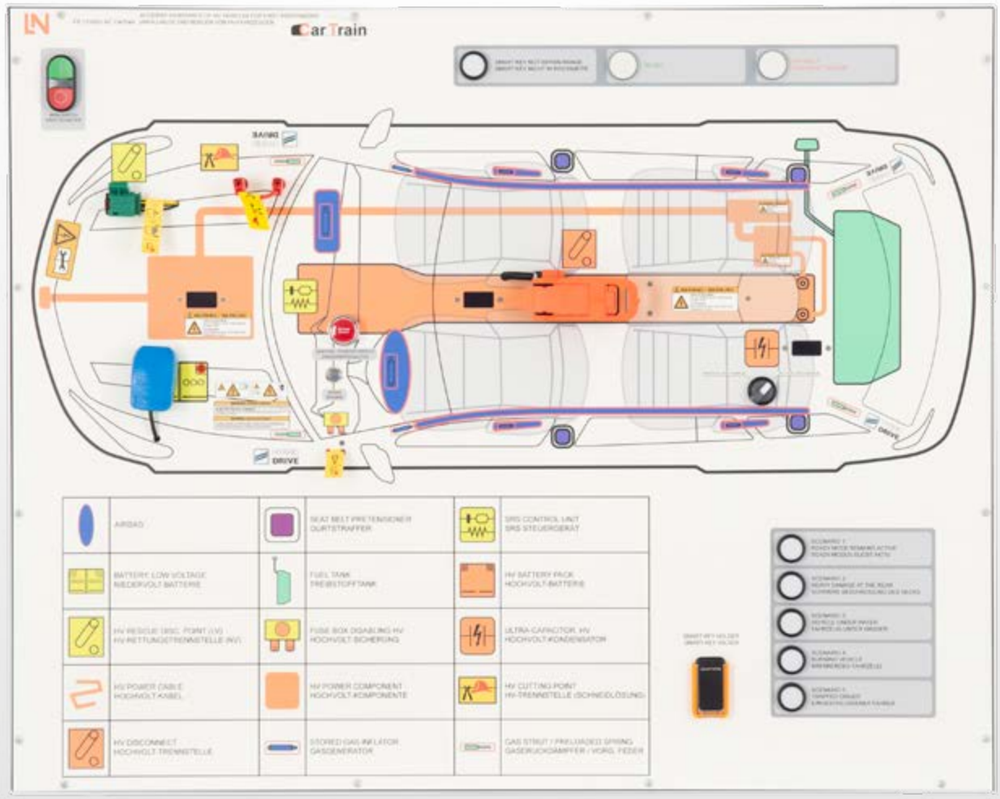
Apply Protective Measures

- Personal safety and protection
- Securing the accident site

Rescue Cards

- Use of rescue cards
- Establishing a rescue card database
- Preparation and rapid deployment of rescue card database

QUICK AND SAFE SHUTDOWN OF THE HV SYSTEM



In order for the vehicle and its occupants to be recovered safely, the high voltage system must be powered down safely and correctly.

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Our training package includes all the methods currently used by the various vehicle manufacturers to isolate the high voltage system. Including:

- High voltage isolation point (plug)
- High voltage disconnection point (cutting)
- High voltage fuse
- 12v battery disconnect

HANDS ON ACCIDENT SCENARIOS

Thermal imaging is a safe and effective method of assessing the fire hazard potential of a high voltage vehicle involved in an accident. If there is any suspicion that the integrity of the high voltage battery is damaged, the temperature should be analysed as quickly as possible and continue to be monitored.

Our training hardware has the unique ability to simulate the temperature rise of a high voltage battery in complete safety and repeatable as frequently as required.

In addition, we have also integrated a range of other switchable faults and scenarios commonly found in accident damaged high voltage vehicles:

Scenario 1

- READY mode of the HV vehicle cannot be switched off

Scenario 2

- Severe damage to the rear and HV battery (incl. simulated heating of the HV battery)

Scenario 3

- Damaged HV vehicle

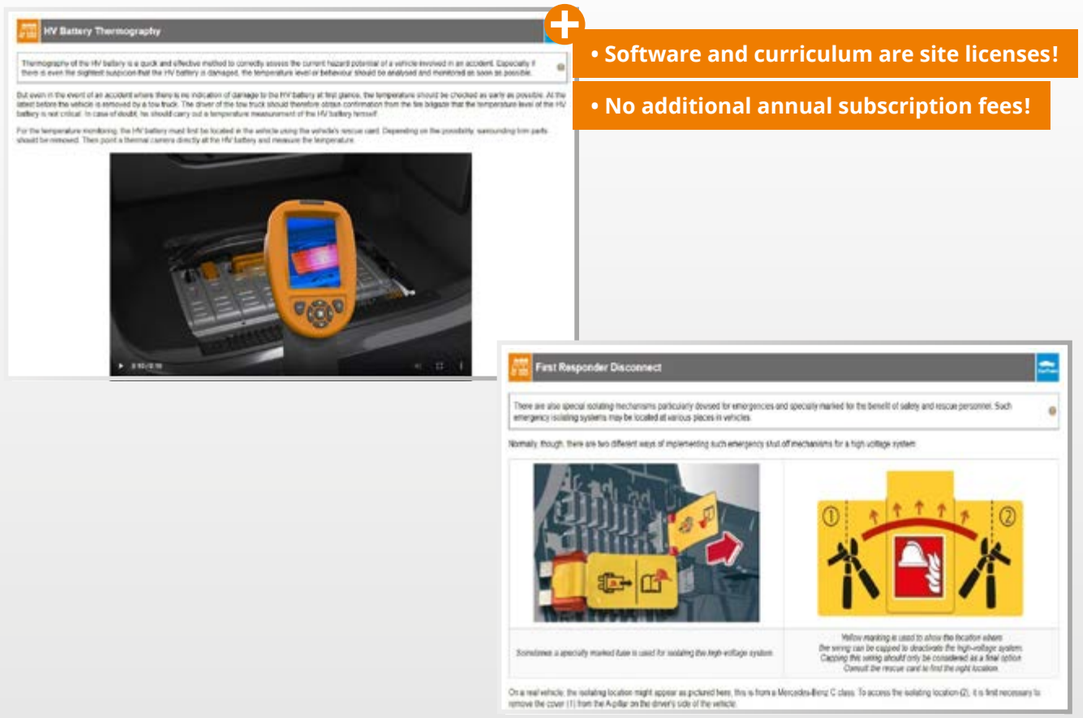
Scenario 4

- Burning HV vehicle

Scenario 5

- Trapped driver

COMPLETE E-LEARNING CURRICULUM INCLUDED



- **Software and curriculum are site licenses!**
- **No additional annual subscription fees!**

The tailored eLearning software perfectly complements the CarTrain hardware. It contains all the necessary theory content and the operating instructions for the multiple practical exercises. It benefits from high quality videos and animations to create an easy to use and interactive programme.

As such, complex topics are presented in a manner that is easy to follow and understand whilst keeping candidates engaged and motivated to learn. Knowledge can be checked at the end of each chapter with a test.

Additional Benefits:

- 1 Site Licence means the software can be installed on unlimited devices across the organisation!
- Free curriculum software updates as released!
- No annual subscription fees!

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