ELECTRIC & HYBRID VEHICLE TECHNOLOGY

£995pp +VAT

IMI LEVEL 4 AWARD IN THE DIAGNOSIS, TESTING AND REPAIR OF ELECTRIC/HYBRID VEHICLES AND COMPONENTS (VRQ)

IMI Course Code 610/0975/1

Duration: 3 Days

*For Technicians Experienced with High-Voltage systems.**

**Pre-requisite to hold a Level 3 EV qualification + minimum 6 months industry experience.*

Delivered at Remit and nationwide.

Delivered by industry-experienced trainers

Theory

12 hrs Classroom delivery

- *Electrical theory.*
- *Working safely on high-voltage systems.*
- *In-depth understanding of EV and hybrid vehicle system components.*

Practice

6 hrs Workshop delivery

- *Fault finding and diagnosing faults on high-voltage power trains.*
- *Repairing high-voltage electrical components and systems.*

Assessment

6 hrs 2 hrs

- *1x Online written assessment.*
- *2x Practical tasks.*
- *1x Additional assignment. To be completed, submitted and marked within 28 days of course completion.*

This Qualification Provides...

IMI INSTITUTE OF THE MOTOR INDUSTRY

Achieved IMI Members requirement.

IMI TechSafe

IMI TechSafe Qualification.

Benefits to Your Business

- Ability to work on & replace lithium batteries in-house.
- Cost savings vs sending vehicles back to manufacturers.
- Reduced downtime & customer waiting times while waiting for above.
- Versatility in working with EV & hybrid-related maintenance and repair.
- Reduced staff turnover from staff investment.
- Increased revenue from more complex work.

Benefits to Your Technician

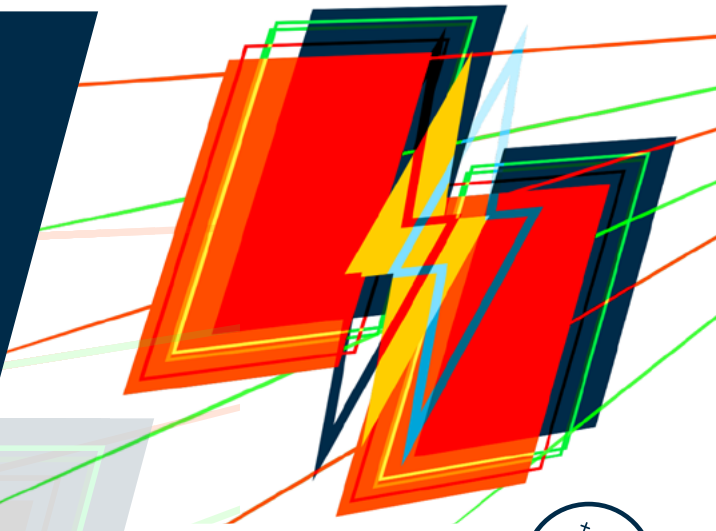
- Contributes to TechSafe CPD requirements.
- Technicians will have the ability to work on live electrical systems.

EV LEVEL 4 COURSE OVERVIEW

This programme is designed for technicians who maintain and repair electric & hybrid high-voltage vehicle systems and components. The purpose of this programme is to provide technicians working on electric & hybrid vehicles with the required level of skills and knowledge to carry out repairs on live, high-voltage vehicle electrical components and systems safely.

The course is run over 3 days. Remit run the course for an additional day compared to other training providers so we can dive deeper, and further underpin safety principles and practices for working around live systems.

On completion, technicians will be able to practically demonstrate that they have the skills required to repair high-voltage vehicle electrical components and systems.



What's Covered...

- Technical Maths recap.
- Working safely on and around de-energised high-voltage systems and components.
- The correct tooling and equipment to use for working on HV systems.
- Carrying out repairs on live high voltage vehicle systems safely.
- Electrical principles relating to low and high-voltage vehicle systems.
- In depth look at charging systems and leads.
- Reading and interpreting circuit diagrams and how to follow current paths through a circuit.
- Differences between Alternating Current (AC); Direct Current (DC) and Three-Phase current.
- Calculating current, resistance, voltage and power in series and parallel circuits using Ohm's Law.
- Energy flows during the operation of hybrid systems in various modes.
- High voltage (HV) vehicle systems and components (HV battery, invertor, charging systems including DC TO DC charging and plug in charging systems).
- The removal and strip-down of the HV battery including removing modules and bus-bar followed by rebuilding and balancing the battery when refitted.
- Hazards associated with working on live, high-voltage vehicle systems and how to reduce the risks to yourself and others.
- Identifying the relevant manufacturer's repair procedures associated with working on high-voltage vehicle systems.

Remit will also...

In addition to the IMI Level 4 course material, Remit can also alter the course to be lighter or heavier on certain content depending on employees and their working involvement on certain systems. We can alter material on:

- High-voltage relay contactors testing.
- Insulation testing High-voltage cables using mega-ohm meters.
- Testing & analysis using diagnostic equipment.
- Component removal and inspection of vehicle components on-bench including High-voltage battery pack removal, strip replacement, and bus-bar.
- Different manufacturers and builds.
- MG & MG2 phases checked using Milli-ohm meter.