

Level: L3/4 (Ofqual) or equivalent.
Suitable for: Individuals who work on electric vehicles and would be responsible for identifying faults within high voltage electrical systems and components following production, or in when in service.

Credit Size TBC
Indicative Learning Hours 35 (estimate)
Indicative Contact Hrs 30 (estimate)
Indicative Self-Directed Study Hrs. 5 (estimate)

Version: 1
Created: 01/02/2021
Revised:

Prerequisites: Individuals will already have appropriate vehicle assembly and repair knowledge and skills at level 2 and must have first completed the programme Carry out the isolation/lockout and re-energising of Automotive Electric Vehicles

Learning Outcomes (LO):

On completion of unit learners will:

1. Use high voltage diagnostic tools to identify errors/faults in vehicle power/battery systems (19) (S) (MF)
2. Use battery/systems diagnostics for fault finding and trouble shooting (15) (S) (MF)
3. Demonstrate awareness of the characteristics of power electronics, installation, cooling, interface, connection, grounding and handling requirements (53) (K) (MF)
4. Use diagnostic in controlled environment to gauge whether a system or component meets the required criteria and resolve simple faults (18) (S) (MF)

Assessment

Knowledge and skills

Suggested format

The skills assessment would completed in a controlled environment. The knowledge would be assessed through e-assessment multiple choice questions, with some consideration given to whether contextualisation is needed to ensure specific safety requirements of a manufacturer (if this is the case, this could be included via oral questioning as part of the skills assessment on component / system assembly as this is likely to be completed on manufacturer specific product)

Core Subjects	Potential Curriculum Coverage (initial mapping shows some matches to high level statements)	Currently Delivered By
Understanding the characteristics of power electronics, installation, cooling, interface, connection, grounding and handling requirements	IMI - Level 4 Award in the Diagnosis, Testing and Repair of Electric/Hybrid Vehicles and Components - Unit Diagnosis, Testing and Repair of Electric/ Hybrid Vehicles and Components - LOs 1 to 4	IMI Centres
	ABC -Service and Repair of Electric and Hybrid Vehicles	ABC Centres
	Lucas Nuelle - Hybrid and Electric Vehicle Specialist - Power electronics	Delivered globally as part of the LN electric vehicle offer
System and battery diagnostics	IMI Level 4 Award in the Diagnosis, Testing and Repair of Electric/Hybrid Vehicles and Components - Unit Diagnosis, Testing and Repair of Electric/ Hybrid Vehicles and Components - LO 5	IMI Centres
	ABC -Service and Repair of Electric and Hybrid Vehicles	ABC Centres
	Lucas Nuelle - Diagnostics and maintenance for high-voltage vehicle batteries - Diagnosis of high-voltage systems	Delivered globally as part of the LN electric vehicle offer

Additional information and recommendations

The skills assessment would completed in a controlled environment. The knowledge would be assessed through e-assessment multiple choice questions, with some consideration given to whether contextualisation is needed to ensure specific safety requirements of a manufacturer (if this is the case, this could be included via oral questioning as part of the skills assessment on component / system assembly as this is likely to be completed on manufacturer specific product)