

IMI Level 3 Award in Heavy Electric/Hybrid Vehicle System Repair and Replacement (2 Days)

Course Synopsis



Overview

The purpose and aim of these new IMI heavy electric/hybrid vehicle qualifications (VRQs) is to instruct individuals from the retail heavy vehicle industry and the public service sector in the operation of working safely on the high energy electrical system. These qualifications have been developed by the IMI in conjunction with heavy electric/hybrid vehicle manufacturers, component suppliers and the IMI Sector Skills Council. They are the first qualifications of their kind to address heavy electric/hybrid vehicle (high voltage) technology. The qualifications are essential to ensure the health and safety of individuals working with heavy electric vehicles.

This award is designed for technicians who maintain and repair heavy electric/hybrid vehicles. It contains the knowledge and skills required to work safely in and around the vehicle's high and low voltage electrical system and electric drive train system when replacing high voltage components. On completion of this qualification, technicians will be able to practically demonstrate that they have the skills required for repairing vehicles with low and high voltage electric technologies.

Subjects Covered

- Terminology
- Types of Hybrid/EV layouts
- Operational conditions
- Auto-Stop Systems
- Construction and function of Hybrid systems
- Handling Hybrid components and safety procedures
- Construction and function of Electrically propelled/Hybrid systems
- Safe Shut-down procedures and Methods of electrical measurement
- Construction and function of components Identification of Control units, components and motor assembly – Practical (Subject to hardware availability)
- Battery construction and operation
- Brushless Motor Construction and operation
- 3-Phase principles
- Motor control
- Electrical Regeneration
- Inverter Voltage rectification and regulation

Certification

I.D. No: 603/4182/8 IMI Level 3 Award in Heavy Electric/Hybrid Vehicle System Repair and Replacement

