Specification of Competency Standards
for the Automotive
Unit of Competency

Functional Area - Vehicle Servicing

Title	Isolation and reinstatement of the high-voltage electrical system of electrified vehicles
Code	111700L3
Range	This unit of competency is applicable in vehicle service workshops. Practitioners should be able to isolate and reinstate the high-voltage electrical system of electrified vehicles safely according to the instructions in the corresponding vehicle manufacturer's service manual and the relevant requirements on environmental protection, occupational safety and health regulations. They should also be able to handle potential hazards, conduct basic tests on the systems and provide work report upon completion of work.
Level	3
Credit	4 *(For Reference Only)*

Competency	**Performance Requirements**
	
	1. Knowledge (Isolation and reinstatement of the high-voltage electrical system of electrified vehicles, including battery electric motorcycles, fuel cell electric vehicles, battery electric vehicles and hybrid electric vehicles)
	• Identify the high-voltage electrical systems and components of electrified vehicles and their locations, such as:
	  ◦ High-voltage cables
	  ◦ High-voltage battery pack
	  ◦ Electric power modulation and control modules
	  ◦ Electric Motors
	  ◦ Charging inlets
	• Master the use of personal protection and first-aid equipment for conducting high-voltage system isolation/reinstatement processes.
	• Master the isolation and reinstatement procedures for the high-voltage system of electrified vehicles according to the instructions in the corresponding vehicle manufacturer's service manual.
	• Master the use of testing equipment for identifying the electric charge and insulation of high-voltage components.
	• Understanding of the relevant legal requirements on road and vehicle safety, and environmental protection.

	2. Performance (Perform the isolation and reinstatement procedures for the high-voltage electrical system of electrified vehicles) • According to the maintenance requirements of manufacturers, inspect the serviceability of personal protection and first-aid equipment periodically. • According to the instructions in the corresponding vehicle manufacturer's service manual and the requirements of occupational safety and health as well as that of environmental protection, with the application of proper personal protection equipment and special service tools, safely process isolation and reinstatement for the high-voltage electrical system of an electrified vehicle, including: ◦ Identify the exact location of the high-voltage electrical system isolation/reinstatement component ◦ Check the intactness of the isolation/reinstatement component by visual inspection ◦ Perform the high-voltage system isolation/reinstatement correctly • Determine the effectiveness of isolation/reinstatement processes after work and provide work report focusing on the abnormalities and corresponding actions taken.
Assessment Criteria	The integrated outcome requirements of this unit of competency are that the practitioner being assessed shall prove that he/she is: • Capable of checking the intactness of high-voltage connectors and cables linked among high-voltage systems/components; • Capable of isolating and reinstating the high-voltage electrical system of electrified vehicles safely according to the instructions in the electrified vehicle manufacturer's service manual and the relevant requirements on environmental protection, occupational safety and health regulations; and • Capable of determining the effectiveness of isolation/reinstatement processes on the high-voltage system and providing work report upon completion of work.
Remark	The credit value of this unit of competency is set on the presumption that the practitioner concerned has already possessed good knowledge of the construction and operation of electrified vehicles. The practitioner concerned should be a recognised competent person in electric-drive vehicles, such as a registered vehicle mechanic who has completed an electric vehicle – low voltage training course, or equivalent. The major ordinance involved in this unit of competency is as follows: • Relevant ordinances to the Road Traffic (Construction and Maintenance of Vehicles) Regulations • Occupational Safety and Health Ordinance (This UoC replaced 108690L2)