Specification of Competency Standards
for the Automotive
Unit of Competency

Functional Area - Vehicle Servicing

Title	Conduct maintenance and inspection of low-voltage electrical systems on electrified vehicles
Code	111698L3
Range	This unit of competency is applicable in vehicle service workshops. Practitioners should be able to execute the maintenance and inspection of the low-voltage electrical system work on 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 conduct functionality tests on the systems/components and provide written report upon completion of work.
Level	3
Credit	3 *(For Reference Only)*
Competency	**Performance Requirements** 1. Knowledge (Hazard associated with electrified vehicles) • Accurately differentiate the voltage levels amongst the components and cables of various electrified vehicle systems, such as the rechargeable energy storage system, powertrain, air conditioning, steering, cooling, suspension, and braking systems, etc. • Master the functions and applications of various special tools and equipment for maintaining the low-voltage electrical operating systems of electrified vehicles. • According to the instructions in the corresponding vehicle manufacturer's service manual, identify the risks and hazards associated with electrified vehicles, including fuel cell electric, electric and hybrid electric vehicles, the potential hazards of various low-voltage electrical systems, and associated preventive and protective measures. • Conversant with the inspection and maintenance procedures for low-voltage operating electrical systems • Master of the relevant legal requirements on road and vehicle safety, and environmental protection. 2. Performance (Process the low-voltage system maintenance and inspection-related work on electrified vehicles) • 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, safely process the low-voltage system maintenance and inspection-related work on electrified vehicles, including: ◦ Identify the potential risks and hazards of the systems/components concerned ◦ Work on the systems/components in accordance with the relevant preventive measures • Conduct performance and safety inspection after the work and provide written report focusing on: ◦ Abnormalities ◦ Measured data ◦ Major decisions

Assessment Criteria	The integrated outcome requirements of this unit of competency are that the assessee shall prove that he/she is: • Capable of executing maintenance and inspection work on low-voltage electrical systems/components on electrified vehicles safely according to the instructions in the corresponding electrified vehicle manufacturer's service manual and the relevant requirements on environment, occupational safety and health regulations; and • Capable of conducting functionality tests safely on low-voltage electrical systems/components, and providing working report upon completion of work.
Remark	The credit value of this unit of competency is set on the presumption that the assessee concerned has already possessed good knowledge of the structure and operation of electrified vehicles. The practitioner concerned should be a recognised competent person in electrified vehicles, such as a registered vehicle mechanic who has completed an electric vehicle – low voltage training course, or equivalent. The servicing process should be under the high-voltage system power-down condition and is confirmed by the checking result of special service tools/authorised competent person. (This UoC replaced 108688L2)