Specification of Competency Standards
for the Automotive
Unit of Competency

Functional Area - Vehicle Servicing

Title	Check and repair the low-voltage battery, charging and starting systems of combustion engine vehicles
Code	111667L2
Range	This unit of competency is applicable in vehicle service workshops. Practitioners should be able to check the condition of the low-voltage vehicle battery, test and repair the vehicle charging and starting systems safely according to the instructions in the vehicle manufacturer's service manual. They should also be able to conduct functional and performance tests on components, and provide a simple fault report upon completion of work.
Level	2
Credit	2 *(For Reference Only)*
Competency	**Performance Requirements** 1. Knowledge (Structure and operating principles of low-voltage batteries, charging and starting systems) • Understand the structure and operating principles of battery, charging and starting systems. • Understand the specification, maintenance and safety rules of batteries and the associated handling methods. • Understand basic electric power transfer and the principle of power generation. • Know about general electrical tools and instruments. • According to the instructions in the vehicle manufacturer's service manual, identify the general checking and repairing procedure for low-voltage battery, charging and starting systems. • Understand the relevant legal requirements on road and vehicle safety and environmental protection.

	2. Performance (Check and repair low-voltage battery, charging and starting systems of combustion engine vehicles)
	• According to the instructions in the vehicle manufacturer's service manual and the requirements of occupational safety and health as well as that of environmental protection, safely inspect and repair low-voltage battery, charging, electric supply and starting systems of combustion engine vehicles, including:
	  ◦ Identify the common faults in the low-voltage battery, charging and starting systems by visual inspection
	  ◦ Use specified tools or instruments to inspect and measure the value of specific gravity of electrolyte and the effectiveness of electric discharge, and carry out appropriate maintenance work
	  ◦ Low-voltage battery replacement and charging
	  ◦ Handle and dispose of battery in accordance with environmental protection ordinances
	• Check and repair the parts/components of vehicle charging and starting systems as well as circuit control components, including dismantling, replacing and reassembling of relevant system components.
	• Conduct performance and safety inspection after the work and provide a simple fault report focusing on:
	  ◦ Abnormalities
	  ◦ Measurement data
	  ◦ Major decisions

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 and repairing low-voltage batteries, charging and starting systems of combustion engine vehicles safely according to the instructions in the vehicle manufacturer's service manual; • Capable of conducting functional and performance tests on components and providing simple fault report upon completion of work; and • Capable of charging and handling (including disposing of) battery in accordance with the requirements of the Occupational Safety and Health Ordinance and environmental protection ordinances.
Remark	The credit value of this unit of competency is set on the presumption that the practitioner concerned has already possessed basic knowledge of vehicle electrical systems servicing. (This UoC replaced 108651L2)