Specification of Competency Standards
for the Automotive
Unit of Competency

Functional Area - Vehicle Servicing

Title	Diagnose and rectify the faulty vehicle engine and components
Code	111734L3
Range	This unit of competency is applicable in vehicle servicing workshops. Practitioners should be able to masterly conduct complicated fault diagnosis on various types of vehicle engines and components, and conduct rectification according to the instructions in the vehicle manufacturer's service manual and the relevant requirements on environmental protection, occupational safety and health regulations. They should also be able to conduct functional tests, fill in a simple fault record and provide written report upon completion of work.
Level	3
Credit	6 *(For Reference Only)*
Competency	**Performance Requirements** 1. Knowledge (Structure and operating principles of vehicle engines and components) • Master the structure and operating principles of vehicle engines and components, including the interpretation of system layout and wiring circuit diagrams, such as: ◦ engine ◦ cooling and lubrication systems ◦ fuel supply and metering systems for various fuel types ◦ air intake and exhaust systems, including emission controls ◦ ignition system (for spark-ignition engine only) ◦ engine management systems • Familiar with the function and application of diagnostic equipment and repairing tools for the services of vehicle engines and components, such as onboard diagnostic testers, electrical circuit testers, emission analysers (for spark-ignition engines), opacimeters (for compression ignition engines), etc. • Master the diagnosis and rectification processes of the vehicle engine and components for mechanical, electrical and electronic related faults with reference to the vehicle manufacturer's service instructions. • Familiar with the relevant legal requirements on road and vehicle safety, occupational safety and health, and environmental protection.

	2. Performance (Conduct fault diagnosis and rectification on vehicle engines and components)
	• Correctly select and apply the diagnostic equipment to locate the faulty functions of vehicle engines and components.
	• Masterly diagnose the faulty vehicle engine and components with reference to the instructions in the vehicle manufacturer's service manual and the requirements of occupational health and safety and that of environmental protection.
	• Safely conduct rectification to eliminate the faults according to diagnostic results and the instructions in the vehicle manufacturer's service manual and associated requirements.
	• Conduct performance and safety inspection after the work and provide written report focusing on:
	  ◦ Abnormalities
	  ◦ Measured data
	  ◦ Major decision

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 selecting and applying suitable diagnostic equipment and repairing tools for fault-finding and rectification, respectively; • Capable of conducting complicated diagnosis procedures on the faults of various types of vehicle engine and components, including but not limited to engine power deficiency, unstable running, abnormal operating noise, fluid leakage, high fuel consumption and degraded emission quality, according to the instructions in the vehicle manufacturer's service manual and the relevant requirements on environmental protection, occupational safety and health regulations; • Capable of making rectifications of vehicle engine and components according to diagnostic results; and • Capable of conducting functional tests for the vehicle engines and components, and filling in a simple fault report upon completion of work, and providing written report.
Remark	The credit value of this unit of competency is set on the presumption that the practitioner concerned has already possessed good knowledge of inspecting and repairing vehicle engines and components. (This UoC replaced 108697L3 and 108722L3)