Specification of Competency Standards
for the Automotive
Unit of Competency

Functional Area - Vehicle Servicing

Title	Diagnose and rectify the faulty vehicle under-chassis systems
Code	111735L3
Range	This unit of competency is applicable in vehicle servicing workshops. Practitioners should be able masterly to conduct complicated fault diagnosis on various vehicle under-chassis systems, 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 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 under-chassis systems)
	• Master the structure and operating principles of vehicle under-chassis systems including the interpretation of system layout, hydraulic and wiring circuit diagrams, such as:
	  ◦ power-assisted steering systems including wheel alignment (and dual-front axle steering for commercial vehicle)
	  ◦ suspension systems (for light vehicle only)
	  ◦ heavy-duty suspension systems including tandem axle suspension and lift-axle suspension (for commercial vehicle only)
	  ◦ power-assisted hydraulic brake systems including retardation units (for light vehicle only)
	  ◦ pneumatic brake systems including trailer brakes and retardation units (for commercial vehicle only)
	  ◦ integrated stability control system
	• Familiar with the function and application of diagnostic equipment and repairing tools for the services of vehicle under-chassis systems, such as onboard diagnostic testers, electrical circuit testers, wheel aligner, etc.
	• Master the diagnosis and rectification processes of the vehicle under-chassis systems 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 under-chassis systems)
	• Correctly select and apply the diagnostic equipment to locate the faulty functions of vehicle under-chassis systems.
	• Masterly diagnose the faulty vehicle under-chassis systems 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 and the effectiveness

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 vehicle under-chassis systems, including but not limited to, abnormal operating noises and vibrations, ineffective integrated stability control, deficient steering power assistance, unstable driving responses, abnormal tyre wear, declining braking and suspension performance, 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 under-chassis systems according to diagnostic results; and • Capable of conducting functional tests for the vehicle under-chassis systems and providing written 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 inspecting and repairing vehicle under-chassis systems and components. (This UoC replaced 108698L3 and 108723L3)