Specification of Competency Standards
for the Automotive
Unit of Competency

Functional Area - Vehicle Servicing

Title	Removal and replacement of the traction motor and associated components of electrified vehicles
Code	111703L3
Range	This unit of competency is applicable in vehicle service workshops. Practitioners should be able to remove and replace the traction motors and associated components safely according to the instructions in the corresponding electrified vehicle manufacturer's service manual and the relevant requirements on environmental protection, occupational safety and health regulations. They should also be able to conduct performance tests on the motor assembly and provide work report upon completion of work.
Level	3
Credit	4 *(For Reference Only)*
Competency	**Performance Requirements** 1. Knowledge (The traction motor and associated components) • Understand the structure and operation of the traction motors and associated components of electrified vehicles. • Demonstrate the removal and replacement procedures of the traction motor assembly and associated components according to the instructions in the corresponding vehicle manufacturer's service manual. • Familiar with the special servicing tools and equipment for removing and replacing the traction motors and associated components. • Demonstrate the coding and performance test procedures of the traction motor. • Understanding of the relevant legal requirements on road and vehicle safety, and environmental protection. 2. Performance (Removal and replacement of traction motors and associated components of electrified vehicles, and the subsequent performance tests) • 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, remove and replace the traction motors and associated components of electrified vehicles safely, including: ◦ Identify the intactness and connections of coolant hoses, cables and signal lines of the traction motor and associated components ◦ Remove and replace the traction motor and associated components properly and safely ◦ Conduct functional tests for the traction motor and associated components after replacement • Conduct coding procedure, performance and safety inspection after the replacement work and provide work 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 removing and replacing the traction motors and associated components, including wiring 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, after the system power-down is confirmed by the checking result of special service tools / authorised competent person; and • Capable of conducting functional tests for the traction motor and associated components and the coding procedure for the traction motor, 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 already possesses 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. 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