Specification of Competency Standards
for the Automotive
Unit of Competency

Functional Area - Vehicle Servicing

Title	Assemble heat, ventilation and air-conditioning (HVAC) systems on vehicles
Code	111696L2
Range	This unit of competency is applicable in vehicle body building workshops. Practitioners should be able to carry out the assembling procedures for heat, ventilation and air-conditioning (HVAC) systems in accordance with working instructions and working drawings as well as the actual worksite conditions, and provide work report after the work.
Level	2
Credit	3 *(For Reference Only)*
Competency	**Performance Requirements** 1. Knowledge (Structure and basic operating principles of HVAC systems on vehicles) • Understand the characteristics of refrigerants, relevant handling procedures and legal requirements. • Identify the structure and operating principles of HVAC systems on vehicles. • Master the installation and inspection procedures for the HVAC systems on vehicles according to the manufacturer's instructions. • Understanding of the relevant legal requirements on road and vehicle safety and environmental protection. 2. Performance (Assembling procedure for the HVAC systems on vehicles and functional test) • Safely and correctly assemble the HVAC systems on vehicles according to relevant legislative provisions, instructions in the manufacturer's assembling manual and the requirements of occupational safety and health as well as that of environmental protection, including: ◦ Assemble HVAC systems on vehicles ◦ Carry out the assembling procedure according to the respective rules of the workshops and instructions ◦ Use prescribed tools and instruments to charge the exact type and adequate quantity of refrigerant and lubricant into the air-conditioning system correctly to ensure normal system pressure and without leaking, and conduct a leakage test ◦ Connect relevant wiring for operational control units and fan motors, install the thermal insulation materials and associated ductwork. • Capable of inspecting and testing the system upon completion of work to ensure that the requirements of the manufacturing specification are met, and providing work report.
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 assembling HVAC systems on vehicles with correct tools and materials according to the instructions in the manufacturer's assembly manual; • Capable of charging the exact type and adequate quantity of refrigerant and lubricant into the air-conditioning systems and conducting leakage tests; and

	• Capable of inspecting and evaluating the system performance, 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 vehicle electrical system repair and refrigerant handling, and the operating principles of electrified vehicles. In the case of working on 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 assembly 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 108762L2)