

Specification of Competency Standards
for the Automotive Industry
Unit of Competency

Functional Area - Vehicle Servicing

Title	Check and repair vehicle air cooling and air-conditioning systems
Code	108656L2
Range	This unit of competency is applicable in vehicle servicing workshops. Practitioners should be able to check and repair vehicle air cooling and air-conditioning systems safely according to relevant legislative provisions of Hong Kong and the instructions in the vehicle manufacturer's servicing manual. They should also be capable of conducting basic tests on components upon completion of work and providing written report.
Level	2
Credit	3 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Knowledge (Structure and basic operating principles of vehicle air cooling and air-conditioning systems)</p> <ul style="list-style-type: none"> • Understand the characteristics of vehicle refrigerants and the relevant handling procedure as well as safety rules and regulations. • Understand the structure and basic operating principles of vehicle air cooling and air-conditioning systems. • Understand the circuit of vehicle air cooling and air-conditioning systems. • With reference to relevant legislative provisions of Hong Kong and the instructions in the vehicle manufacturer's servicing manual, know about the general checking and repairing procedure for vehicle air cooling and air-conditioning systems. • Understand the legal requirements of concerning the refrigerants recovery. • Understanding of the relevant legal requirements on road and vehicle safety and environment protection. <p>2. Performance (Check and repair vehicle air cooling and air-conditioning systems)</p> <ul style="list-style-type: none"> • According to relevant legislative provisions of Hong Kong, the instructions in the vehicle manufacturer's servicing manual and the requirements of occupational safety and health as well as that of environmental protection, safely check, repair and test the air cooling and air-conditioning systems, including: <ul style="list-style-type: none"> ○ Capable of identifying the general problems in the components of vehicle air cooling and air-conditioning systems by visual inspection ○ Use general tools and instruments to check and measure vehicle air cooling and air-conditioning systems ○ Check and repair the parts of vehicle air cooling and air-conditioning systems as well as electric/electronic devices, including dismantle, replace, re-assemble, adjust and test relevant system components and accessories ○ Rectify typical system fault ○ Use prescribed tools or instruments to accurately test refrigerant leakage in the systems ○ Use the refrigerant recovery machine approved by the Environmental Protection Department to collect/ recycle refrigerants ○ Use prescribed tools or instruments to accurately measure and test the operation and effectiveness of vehicle air cooling and air-conditioning systems • Conduct performance and safety inspection after the work and provide written report focusing on: <ul style="list-style-type: none"> ○ Abnormalities ○ Measured data ○ Major decisions

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Assessment Criteria	<p>The integrated outcome requirements of this unit of competency are that the practitioner being assessed shall prove that he/she is:</p> <ul style="list-style-type: none">• Capable of checking, repairing and adjusting general vehicle air cooling and air-conditioning systems safely according to the instructions in the vehicle manufacturer's servicing manual and conducting basic tests on components upon completion of work and providing written report.• Capable of collecting and handling the refrigerants of vehicle cooling and air-conditioning systems according to relevant legislative provisions of Hong Kong and the instructions in the vehicle manufacturer's servicing manual; and• Capable of checking any refrigerant leakage in vehicle air cooling and air-conditioning systems.
Remark	<p>The credits value of this unit of competency is set on the presumption that the practitioner concerned has already possessed basic knowledge of vehicle electronic and electric system servicing.</p>