

**Specification of Competency Standards**  
**for the Automotive Industry**  
**Unit of Competency**

Functional Area - Vehicle Servicing

Title	Conduct fault diagnosis on vehicle battery, charging and starting systems
Code	108703L3
Range	This unit of competency is applicable in vehicle servicing workshops. Practitioners should be able to check the condition of vehicle battery, conduct diagnosis on vehicle charging and starting systems and also repair them according to the instructions in the vehicle manufacturer's servicing manual and the relevant requirements on environment, occupational safety and health regulations masterly. They should also be able to conduct system tests and evaluation and providing written report upon completion of work.
Level	3
Credit	3 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Knowledge (Structure and operating principles of vehicle battery, charging, electric supply and starting systems)</p> <ul style="list-style-type: none"> <li>• Good understanding of the structure and operating principles of vehicle battery, charging, electric supply and starting systems.</li> <li>• Good understanding of electric and electronic theories and also the principles of electric power transfer and electric power generation.</li> <li>• Good understanding of about general. electric/electronic tools or equipment.</li> <li>• Good understanding of the handling procedure for vehicle lead acid battery and its possible impact and danger on occupational safety and health as well as environmental protection.</li> <li>• Master the inspection and maintenance procedure for vehicle battery, charging, electric supply and starting systems according to the requirements stated in the vehicle manufacturer's servicing manual.</li> </ul> <p>2. Performance (Conduct fault diagnosis on vehicle battery, charging, electric supply and starting systems)</p> <ul style="list-style-type: none"> <li>• Independently check and repair the faults found in vehicle battery, charging, electric supply and starting systems according the information in the vehicle manufacturer's servicing manual and the requirements of occupational safety and health as well as environmental protection.</li> <li>• Select appropriate tools and instruments to accurately inspect and measure vehicle charging/electric supply and starting systems; and analyse and evaluate the faults found in the systems according to different data.</li> <li>• Subject to different faults, conduct checking and repairing work including dismantle, replace, re-assemble and fine-tune relevant system components and accessories.</li> <li>• Handle and dispose vehicle battery according to environmental protection regulations.</li> <li>• Accurately assess the efficiency of relevant systems upon completion of the checking and repairing work; and conduct appropriate evaluation and follow-up action.</li> <li>• Rectify system faults based on analysis of data obtained by inspection and measurement; and evaluate if the efficiency of the vehicle battery, charging systems, electric supply systems and starting systems can meet the requirements stated in the vehicle manufacturer's servicing manual</li> <li>• Provide written report after confirming that rectification is done.</li> <li>• Handle and dispose vehicle battery systems according to relevant local statutory requirement, the instructions of parts supplier and battery collection merchants.</li> </ul>

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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"><li>• Capable of masterly conducting fault diagnosis on vehicle battery, charging and starting systems according to the instructions in the vehicle manufacturer's servicing manual and the relevant requirements on environment, occupational safety and health regulations;</li><li>• Capable of implementing or arranging rectification work for relevant systems according to diagnostic results; and conduct test of components upon completion of work; and</li><li>• Capable of conducting system tests and providing written report upon completion of work.</li></ul>
Remark	<p>The credits value of this unit of competency is set on the presumption that the practitioner concerned has already possessed the knowledge of vehicle electric system servicing.</p>