

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

Functional Area - Vehicle Servicing

Title	Master the complicated techniques of chassis stability control
Code	108735L4
Range	This unit of competency is applicable to technicians working at vehicle servicing and inspection departments. Practitioners should be able to master various chassis control systems to enhance the efficiency of inspection and complicated fault diagnosis, and effectively solve the complicated technical problem of vehicle stability.
Level	4
Credit	6 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Knowledge (Relevant chassis control)</p> <ul style="list-style-type: none"> <li>• Good understanding of the principles of speed and stability controls.</li> <li>• Good understanding of the effects of rolling condition of wheels on slip ratio, adhesion and overall performance of vehicle, such as tyre wear, speed control and vehicle stability.</li> <li>• Master the basic factors and possible methods of vehicle deceleration control, as well as their performance and applicability, such as the resistance from wheels or engine.</li> <li>• Master various control methods for vehicle stability and their applicability, such as wheel resistance or power distribution ratio.</li> <li>• Master chassis control systems.</li> <li>• Master the relationship, structure, functions, operating methods, control principles (including hydraulic, air pressure and electricity, etc.) and standard parameters of various systems (including related mechanical and electronically controlled components), such as: <ul style="list-style-type: none"> <li>○ Brake systems, including anti-lock devices</li> <li>○ Traction control systems, including braking and engine power regulation devices</li> <li>○ Yaw control systems, including power regulation devices</li> </ul> </li> </ul> <p>2. Performance (Inspection, fault diagnosis and analysis on the performance of vehicle control)</p> <ul style="list-style-type: none"> <li>• Conduct inspection, fault diagnosis and analysis procedures according to the fault symptoms (including recurrent or intermittent phenomena) of brake systems (including retarder) and related components.</li> <li>• Conduct inspection, fault diagnosis and analysis procedures on traction control system and related components according to the instability symptoms (including recurrent or intermittent phenomena) during acceleration.</li> <li>• Conduct fault inspection or diagnosis procedures on yaw control system according to the instability symptoms (including recurrent or intermittent phenomena) when high speed turning.</li> <li>• Review the causes of defects and diagnostic methods; submit report to seniors covering preventive measures, instructions on inspection and maintenance as well as suggestions for improvement.</li> <li>• Capable of ascertain the performance of brake systems, such as efficiency and balance, etc. according to respective legislative requirements.</li> <li>• Capable of ascertain the right choice of tyres according to respective legislative requirements.</li> </ul>
Assessment Criteria	The integrated outcome requirements of this unit of competency are that the practitioner being assessed shall prove that he/she is:

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	<ul style="list-style-type: none"><li>• Capable of mastering various types of chassis control systems, including the structure, functions, operating methods and control principles of related components to enhance the efficiency and accuracy of inspection and complicated fault diagnosis;</li><li>• Capable of mastering the principles of speed and stability as well as the effects of slip ratio, adhesion, braking force, engine resistance and power distribution, etc. on the performance of stability control to solve the complicated technical problem of vehicle stability effectively and accurately; and</li><li>• Capable of compiling reports covering preventive measures, instructions on inspection and maintenance as well as providing suggestions for improvement, etc. according to the specific defects found in respective chassis stability control systems.</li></ul>
Remark	The credit for this competency unit assumes that the practitioner already has possessed extensive knowledge of automotive, vehicle repair and testing procedures.