Specification of Competency Standards
for the Automotive
Unit of Competency

Functional Area - Vehicle Servicing

Title	Master the complicated techniques of chassis stability control
Code	111754L4
Range	This unit of competency is applicable to technicians working in vehicle service and inspection departments. Practitioners should be able to master the knowledge of various chassis control systems to enhance the efficiency of inspection and fault diagnosis, and effectively solve the complicated technical problems of vehicle stability.
Level	4
Credit	6 *(For Reference Only)*
Competency	**Performance Requirements** 1. Knowledge (Chassis stability control) • Good understanding of the principles of wheel speed and stability controls. • Good understanding of the effects of rolling condition of wheels on slip ratio, adhesion and overall performance of vehicle, such as tyre wear, wheel speed and vehicle stability. • Master the basic factors and possible methods of vehicle deceleration control, as well as their performance and applicability, such as the resistance from wheels, retardation device, and engine rotational resistance. • Master various control methods for vehicle stability and their applicability, such as wheel resistance and power distribution ratio. • Master the working principles of chassis control systems. • 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: ◦ Brake systems, including anti-lock devices ◦ Traction control systems, including braking and engine power regulation devices ◦ Yaw control systems, including power regulation devices

	2. Performance (Inspection, fault diagnosis and analysis of the performance of vehicle controls) • Conduct inspection, fault diagnosis and analysis procedures according to the fault symptoms (including recurrent and intermittent phenomena) of brake systems (including retarders) and related components. • Conduct inspection, fault diagnosis and analysis procedures on the traction control system and related components according to the instability symptoms (including recurrent and intermittent phenomena) during acceleration. • Conduct fault inspection or diagnosis procedures on the yaw control system according to the instability symptoms (including recurrent and intermittent phenomena) when high-speed turning. • Review the causes of defects and diagnostic methods; submit a report to seniors covering preventive measures, instructions on inspection and maintenance as well as suggestions for improvement. • Capable of ascertaining the performance of brake systems, including anti-lock function, such as efficiency and balance, etc., according to respective legislative requirements. • Capable of ascertaining the right choice of tyres according to respective legislative requirements.
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 mastering various types of chassis control systems, their structures, functions, operating methods and control principles of related components, to enhance the efficiency and accuracy of inspection and complicated fault diagnosis; • Capable of mastering the principles of speed and stability as well as the effects of slip ratio, adhesion of tyres, braking force, engine resistance and power distribution, etc., on the performance of stability control to solve the complicated technical problems of vehicle stability effectively and accurately; and • 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.
Remark	The credit value for this competency unit assumes that the practitioner has already possessed extensive knowledge of automotive principle, vehicle repair and testing procedures. (This UoC replaced 108735L4)