

Specification of Competency Standards
for the Automotive Industry
Unit of Competency

Functional Area - Vehicle Servicing

Title	Optimise the performance of vehicle systems
Code	108744L5
Range	This unit of competency is applicable to the engineering staff in the vehicle servicing and inspection departments. Practitioners should be able of master the structure, control methods and operating principles, of various vehicle systems, and enhance the performance of vehicles according to the suggestions and respective instructions on vehicle performance optimisation.
Level	5
Credit	6 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Knowledge (Vehicle systems performance and related technology)</p> <ul style="list-style-type: none"> • Master the structure, functions, control methods, operating principles and standard parameters (e.g. manufacturer standard, approved international standard, and respective regulations) of various vehicle systems (including related components). • Master vehicle performance tuning and testing equipment application techniques. • Master the suggestions and respective instructions on vehicle systems performance optimisation. <p>2. Performance (Optimise the performance of vehicle systems)</p> <ul style="list-style-type: none"> • Conduct research and make improvement for the necessary systems according to the established suggestions and respective instructions on vehicle performance optimisation, such as: <ul style="list-style-type: none"> ○ Poor performance of the chassis stability control system, e.g. insufficient braking power, wheels locked when braking, low response, abnormal noises, drifting or excessive vehicle body rolling when cornering, skid when accelerating, weak impact and vibration absorptions ○ The vehicle body unable to maintain the up-right condition at specified inclined angle, unbalanced axle loading and low steering stability ○ Incorrect lighting intensity and aim alignment, overspread of light scattering and aim direction failed to follow the change of steering angle ○ Insufficient engine power, rough running, hesitates to accelerate, warm stalling, cold start difficulty, abnormal noise and high fuel consumption ○ Emission problems caused by substandard pollutants emission level, high concentration at idle, high speed or high load running, the power system performance and after treatment devices efficiency ○ Excessive working noise caused by the muffling effect of exhaust system, the vehicle body shape and sound-proofing effect, component structure or installation problems ○ Weak acceleration, excessive fuel consumption and shifting shock, etc. caused by incorrect shifting speed or working pressure of automatic transmission • Review the effectiveness of performance optimisation of vehicle systems, compile report and submit to seniors for improvement suggestions.
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 mastering the structure, control methods, operating principles and standard parameters of various vehicle systems, and enhancing the performance of vehicle systems according to the suggestions and respective instructions on performance optimisation; and

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	<ul style="list-style-type: none">• Capable of suggesting methods for improvement of work according to the effectiveness of vehicle system optimisation.
Remark	The credit value of this competency unit assumes that the practitioner has possessed a certain understanding of the vehicle structure, the working principle and performance of each system.