



Australian Government

Assessment Requirements for AURLTZ101 Diagnose and repair light vehicle emission control systems

Release: 1

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Modification History

Release	Comments
Release 1	This version first released with AUR Automotive Retail, Service and Repair Training Package Version 6.0

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- diagnose and repair a fault in the emission control systems of two different light vehicles, in which the work must involve:
 - at least one of the following systems:
 - positive crankcase ventilation system
 - evaporative control system
 - air injection system
 - at least one of the following systems:
 - exhaust emission control system
 - exhaust gas recirculation system
 - diesel engine particulate filter system
 - diesel engine selective catalytic reduction (SCR) system
- carry out a diagnostic test in the course of the above for at least one of the following faults:
 - malfunctioning valves
 - malfunctioning air pumps
 - leaking or contaminated components.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- methods to locate and interpret information required to diagnose and repair light vehicle emission control systems, including:
 - information provided by customers and supervisors
 - manufacturer specifications and procedures or equivalent documentation

- workplace procedures required to diagnose and repair light vehicle emission control systems, including:
 - establishing serviceability of tools and equipment
 - documentation procedures
 - housekeeping procedures, including:
 - examination of tools and equipment
 - storage of equipment
 - identification, tagging and isolation of faulty equipment
 - disposal of excess materials
 - recycling procedures
- workplace health and safety (WHS) requirements relating to diagnosing and repairing light vehicle emission control systems, including procedures for working with vehicles that produce toxic emissions
- environmental requirements relating to diagnosing and repairing light vehicle emission control systems
- operating principles of light vehicle emission control systems and associated components, including:
 - combustion chemistry and combustion emissions
 - engine blow-by
 - fuel volatility
- purpose and operation of light vehicle emission control systems and components, including:
 - evaporative control systems, including:
 - fuel tank vapour space
 - charcoal canister
 - crankcase ventilation systems, including:
 - positive crankcase ventilation (PCV)
 - diesel engine crankcase ventilation systems
 - exhaust emission control systems, including:
 - reduction and oxidation catalytic converters
 - air injection systems
 - diesel engine particulate filter systems
 - diesel engine SCR systems
 - exhaust gas recirculation (EGR) systems
 - emission control through engine design, including:
 - combustion chamber design
 - valve overlap
 - variable valve timing
- diagnostic testing procedures for light vehicle emission control systems, including procedures for testing:
 - evaporative control system operation

- crankcase ventilation system operation
- catalytic converter operation
- air injection system operation
- diesel engine particulate filter system operation
- diesel engine SCR system operation
- exhaust gas analysis
- EGR system operation
- repair procedures for light vehicle emission control systems, including procedures for removing, replacing and adjusting them
- post-repair testing procedures for light vehicle emission control systems.

Assessment Conditions

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the light vehicle emission control systems that they have worked on, e.g. repair orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive repair workplace or simulated workplace
- workplace instructions
- manufacturer light vehicle emission control system specifications
- two different light vehicles with emission control systems specified in the performance evidence
- diagnostic equipment for petrol or diesel light vehicle emission control systems
- tools, equipment and materials appropriate for repairing petrol or diesel light vehicle emission control systems.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1>