



Australian Government

Assessment Requirements for AURLTE104

Diagnose complex faults in light vehicle petrol engines

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 a complex fault in three different light vehicle petrol engines, in which the work for at least two of the engines must involve a different complex fault chosen from the following:
 - an intermittent fault
 - a fault that affects more than one system
 - a fault introduced as a result of a system repair
 - an indirect fault caused by the influence of external systems
- develop a testing strategy to diagnose the cause of the complex fault in each of the three petrol engines above.

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 complex faults in light vehicle petrol engines, including:
 - light vehicle petrol engine manufacturer specifications
- workplace procedures required to diagnose complex faults in light vehicle petrol engines, including:
 - establishing the 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
 - safe disposal of materials

- recycling procedures
- workplace health and safety (WHS) requirements relating to diagnosing complex faults in light vehicle petrol engines, including procedures for:
 - working with hot engine components and rotating engine components
 - controlling hazards associated with hazardous substances, including engine oil and coolants
- environmental requirements, including procedures for trapping, storing and disposing of fluids released from petrol engines
- types of complex faults relating to light vehicle petrol engines, including:
 - intermittent
 - multi-system
 - introduced as a result of system repair
 - indirect, caused by the influence of external systems
- types, function and operation of light vehicle petrol engines, including:
 - intake, exhaust, lubrication, cooling and engine mounting systems and components
 - valve timing and variable valve timing
- testing procedures for light vehicle petrol engines, including:
 - abnormal noise analysis
 - compression testing
 - cylinder leak-down testing
 - oil pressure testing
 - component failure analysis
- types, functions, operation and limitations of diagnostic testing equipment required to diagnose complex faults in light vehicle petrol engines
- procedures for accessing and interpreting scan tool system data, including:
 - diagnostic trouble codes (DTCs), including:
 - conditions that set the DTCs
 - conditions for running DTCs
 - live data
 - waveforms.

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 petrol engines 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 petrol engine specifications
- three different light vehicles with complex faults in their petrol engines
- engine diagnostic equipment, including:
 - compression gauge
 - vacuum gauge
 - cylinder leak-down gauge
 - oil pressure gauge
- tools, equipment and materials appropriate for diagnosing complex faults in light vehicle petrol engines.

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>