



Australian Government

**Assessment Requirements for AURLTE004
Diagnose complex faults in light vehicle
petrol engines**

Release: 1

Assessment Requirements for AURLTE004 Diagnose complex faults in light vehicle petrol engines

Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- diagnose a complex fault in three different light vehicle petrol engines
- the above diagnosis must involve two of the following types of complex faults:
 - 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.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) 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
 - freeze frame data
 - waveforms
 - vehicle continuous and non-continuous monitored systems
- methods and processes for documenting and reporting diagnostic findings and recommendations.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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.

Links

Companion Volume implementation guides are found in VETNet -

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

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