



Australian Government

Assessment Requirements for AURTTR001 Diagnose complex faults in engine management systems

Release: 1

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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 engine management systems
- 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 engine management systems, including procedures for:
 - working with high pressure petrol fuel systems
 - working on vehicle high voltage ignition systems
 - identifying hazards and controlling risks associated with wearing jewellery while working around high current wiring systems
- types of complex faults relating to engine management systems, including:
 - intermittent
 - multi-system
 - introduced as a result of system repair
 - indirect, caused by the influence of external systems
- types, functions and operation of engine management systems, including:

- injectors
- air flow meters
- temperature sensors
- pressure sensors
- throttle position sensors
- testing procedures for engine management systems, including procedures for:
 - dynamic and static testing of vehicle or machinery
 - component failure analysis
- types, functions, operation and limitations of diagnostic testing equipment required to diagnose complex faults in engine management systems, including:
 - scan tools
 - oscilloscopes
- 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
- 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 engine management 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 engine management system specifications
- three different vehicles or machinery with complex faults in their engine management systems
- engine management system diagnostic equipment, including scan tools and oscilloscopes

- tools, equipment and materials appropriate for diagnosing complex faults in engine management systems.

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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