



**Australian Government**

# **Assessment Requirements for AURETR040**

## **Diagnose complex faults in vehicle monitoring and protection systems**

**Release: 1**

## Assessment Requirements for AURETR040 Diagnose complex faults in vehicle monitoring and protection systems

### 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 standard defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- diagnose complex faults in the monitoring and protection systems of two different vehicles, vessels or machinery
- 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 vehicle monitoring and protection systems, including procedures for identifying hazards and controlling risks associated with wearing jewellery while working around high electrical currents
- types of complex faults relating to vehicle monitoring and protection systems, including:
  - intermittent
  - multi-system
  - introduced as a result of system repair
  - indirect, caused by the influence of external systems
- methods for locating and content of manufacturer specifications, workplace procedures and other technical information relating to vehicle monitoring and protection systems
- types, function and operation of vehicle monitoring and protection systems, including:

- display types, including:
  - liquid crystal display (LCD)
  - vacuum fluorescent display (VFD)
  - cathode ray tube (CRT)
  - heads-up display (HUD)
- reconfigurable systems
- electronic analogue display
- on-board diagnostics
- remote and wireless monitoring systems
- testing procedures for vehicle monitoring and protection systems, including:
  - using digital multimeter, scan tool and oscilloscope
  - component wear analysis
  - system operation analysis
  - vehicle continuous and non-continuous monitored systems
- types, functions, operation and limitations of diagnostic testing equipment required to diagnose complex faults relating to vehicle monitoring and protection systems
- 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 recommendation.

## 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 monitoring and protection 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 vehicle, vessel or machinery monitoring and protection system specifications
- three different vehicles, vessels or machinery with complex faults in their monitoring and protection systems
- monitoring and protection system diagnostic equipment relating to vehicles, vessels or machinery, including:
  - digital multimeter
  - scan tool
- tools, equipment and materials appropriate for diagnosing complex faults in monitoring and protection systems of vehicles, vessels or machinery.

## 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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