



Australian Government

Assessment Requirements for AURETR038

Diagnose complex faults in motorcycle electrical and electronic 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 standard defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- diagnose complex faults in the electrical or electronic systems of two different motorcycles or all-terrain vehicles (ATVs)
- 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 motorcycle electrical and electronic systems, including procedures for identifying hazards and controlling risks associated with:
 - high voltage vehicle ignition systems
 - high current vehicle electrical systems
 - wearing jewellery while working around high electrical currents
- types of complex faults relating to motorcycle electrical and electronic 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 motorcycle electrical and electronic systems
- types, function and operation of motorcycle and ATV electrical and electronic systems, including:
 - lighting system
 - ignition system
 - charging system
 - starting system
 - engine management system
 - anti-lock braking system (ABS)
 - immobiliser system
- testing procedures for motorcycle electrical and electronic systems, including:
 - using digital multimeter, scan tool and oscilloscope
 - vehicle dynamic and static testing
 - component failure analysis
 - vehicle continuous and non-continuous monitored systems
- types, functions, operation and limitations of diagnostic testing equipment required to diagnose complex faults in motorcycle electrical and electronic 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 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 electrical and electronic 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 motorcycle or ATV electrical and electronic system specifications
- two different types of motorcycles or ATVs with complex faults in their electrical or electronic systems
- motorcycle or ATV electrical and electronic system diagnostic equipment, including:
 - digital multimeter
 - scan tool
- tools, equipment and materials appropriate for diagnosing complex faults in motorcycle or ATV electrical and electronic 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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