



Australian Government

Assessment Requirements for AURETR138

Diagnose complex faults in motorcycle electrical and electronic systems

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 the electrical or electronic systems of at least two different motorcycles or all-terrain vehicles (ATVs) in which the work for each must involve a different type of complex fault from among 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 two complex faults 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 motorcycle or ATV electrical and electronic system, including:
 - motorcycle or ATV electrical and electronic system manufacturer specifications
- workplace procedures required to diagnose complex faults in motorcycle or ATV electrical and electronic systems, 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 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
- environmental requirements relating to motorcycle electrical and electronic systems.
- 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
- 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.

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 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.

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>