



Australian Government

AURETR016 Read and apply vehicle wiring schematics and drawings

Release: 1

AURETR016 Read and apply vehicle wiring schematics and drawings

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to read and apply technical information in the wiring schematics and drawings of vehicles, vessels and machinery when testing and fault finding electrical wiring systems. It involves preparing for the task, reading and interpreting the schematics and drawings, and completing work processes.

It applies to those working in the automotive service and repair industry. The wiring schematics and diagrams include those in electrical systems in agricultural machinery, heavy commercial vehicles, light vehicles, vessels, mobile plant machinery, motorcycles or outdoor power equipment.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Competency Field

Electrical

Unit Sector

Technical - Electrical and Electronic

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Prepare to read and apply vehicle wiring	1.1 Workplace instructions are used to determine job requirements 1.2 Wiring schematics and drawings are sourced that relate to the

Elements	Performance Criteria
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schematics and drawings	vehicle, vessel or machinery electrical system being tested 1.3 Schematics and drawings are checked to ensure they are current and include latest amendments
2. Interpret information	2.1 <i>Electrical circuit information</i> in schematics and drawings is correctly identified 2.2 Information is interpreted and applied to assist when carrying out testing and repair procedures on electrical wiring systems
3. Complete work processes	3.1 Schematics and drawings are stored to ensure ease of access and protection from loss or damage 3.2 Damage to schematics and drawings is reported according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	Description
Learning skills to:	locate appropriate sources of information efficiently.
Reading skills to:	interpret symbols and graphical illustrations in electrical wiring schematics and drawings.
Oral communication skills to:	clarify information.
Numeracy skills to:	- interpret numbers and units relating to electrical circuits and wiring systems in automotive workshop hard copy and online documentation - determine correct measurement relationships for voltage, current and resistance in electrical circuits from wiring schematics and drawings - interpret correct wiring gauge and dimensions from wiring schematics and drawings.

Range of Conditions

This section specifies work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Bold italicised wording, if used in the performance criteria, is detailed below.

<i>Electrical circuit information</i> must include:	• symbols • wiring codes • legends • diagrammatic representations.
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Unit Mapping Information

Equivalent to AURETR2016 Read and apply vehicle wiring schematics and drawings

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1>

Assessment Requirements for AURETR016 Read and apply vehicle wiring schematics and drawings

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Performance Evidence

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

- read, interpret and apply information from three different vehicle, vessel or machinery wiring schematics and diagrams when testing and fault finding their electrical wiring systems.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- types of information in wiring schematics and drawings, including:
 - circuit symbols
 - wiring codes
 - vehicle zone tables
 - legends
 - diagrammatic representations
- key components of wiring schematics and drawings, including:
 - vehicle wiring schematics
 - electrical component symbols
 - electrical operational block schematics
 - controller area network databus (CAN-bus) circuit diagrams
 - vehicle zoning information tables
 - electrical component drawings
 - connector drawings that include connector end view drawings
- procedures for identifying currency and version control of wiring schematics and drawings

- procedures for maintaining wiring schematics and drawings.

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 vehicle or machinery wiring schematics and drawings they have interpreted, 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
- wiring schematics and drawings relating to three different vehicles, vessels or machinery.

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