



Australian Government

AURETR007 Apply knowledge of automotive electrical circuits and wiring systems

Release: 1

AURETR007 Apply knowledge of automotive electrical circuits and wiring systems

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to apply knowledge of electrical principles during the testing and repair of basic electrical circuits in vehicles, vessels and machinery.

It applies to those working in the automotive service and repair industry. The electrical circuits and wiring systems include those 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. Identify relevant information of electrical	1.1 Components of circuit are identified during testing and repair activities

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.
circuit and wiring system construction and operation in work activities	1.2 Functions of circuit components are identified during testing and repair activities 1.3 Relationships between circuit components, including the effects of testing and repair activities on other electrical circuits, are identified during repair activities
2. Apply relevant information of electrical circuit and wiring system construction and operation in work activities	2.1 Knowledge of electrical circuit construction and operation is used during testing or repair activities to carry out work according to manufacturer specifications and workplace procedures 2.2 Basic electrical principles are used during fault finding procedures 2.3 Knowledge of basic testing procedures is used when using electrical test equipment
3. Evaluate knowledge of electrical circuit and wiring systems	3.1 Knowledge is regularly checked with colleagues and supervisor to ensure currency and accuracy 3.2 Knowledge is updated as required to complement own work role

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 a range of written technical information relating to automotive electrical circuits and wiring systems.
Numeracy skills to:	- interpret numbers and units relating to electrical circuits and wiring systems in automotive technical information - interpret electrical measurements of voltage, current and resistance relating to electrical circuits - interpret wiring gauge dimensional measurements - use basic mathematical operations and common electrical formulas to calculate voltage drop, resistance, current flow and electrical power.

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>Basic electrical principles</i> must include:	relationship between electrical current flow, pressure, resistance and power using Ohm's law.
<i>Basic testing procedures</i> must include:	- voltage drop - circuit resistance - circuit current flow.

Unit Mapping Information

Equivalent to AURETR2007 Demonstrate knowledge of automotive electrical circuits and wiring systems

Links

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