



Australian Government

AURETR003 Identify automotive electrical systems and components

Release: 1

AURETR003 Identify automotive electrical systems and components

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to identify the function and basic operation of a range of vehicle electrical systems and components. It involves preparing for the task, locating information on the systems and components, and demonstrating knowledge of electrical systems.

It applies to those undertaking a Vocational Education and Training in Schools (VETiS) or pre-vocational qualification as preparation to entering the automotive service and repair or automotive manufacturing industry. The unit is designed for use in a highly supervised context and is not suitable for use in a vocational qualification.

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. Locate and identify electrical system and its	1.1 Task instruction is interpreted and vehicle or machinery to be worked on is identified

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.
components	1.2 Technical information regarding electrical system to be identified is located 1.3 Electrical system major components are located and identified on vehicle or machinery according to <i>safety requirements</i> and task instructions
2. Demonstrate knowledge of electrical system	2.1 System function is determined from technical information and demonstrated during workplace activities 2.2 System major component function and basic operation are determined from technical information and demonstrated during workplace activities 2.3 System relationship to vehicle or machinery operation is determined from technical information, and knowledge of relationship is demonstrated during workplace activities

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 information.
Oral communication skills to:	clarify instructions and information.
Numeracy skills to:	use and communicate basic numerical information relating to automotive electrical systems and components.

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>Safety requirements</i> must	work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for:
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include:	• selecting and using personal protective equipment (PPE) • using tools and equipment • following workplace safety procedures.
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Unit Mapping Information

Equivalent to AURETR1003 Apply automotive electrical system fundamentals

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 AURETR003 Identify automotive electrical systems and components

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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, performance criteria, range of conditions and foundation skills:

- identify, locate and demonstrate knowledge of the operation of the following electrical systems while carrying out workplace activities:
 - vehicle electrical power supplies
 - ignition system
 - fuel delivery system
 - charging system
 - starting system
 - lighting system
 - fuses and circuit breakers
 - wiring looms and harnesses.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to applying automotive electrical system fundamentals, including procedures for:
 - selecting and using personal protective equipment (PPE)
 - using tools and equipment
 - following workplace safety procedures
- basic theory and principles of automotive electrical systems, including:
 - alternating current (AC)
 - direct current (DC)
 - Ohm's law

- identification, function and basic operation of vehicle electrical systems and components, including:
 - vehicle electrical power supplies
 - ignition system
 - fuel delivery system
 - charging system
 - starting system
 - lighting system
 - body electrical systems
 - fuses and circuit breakers
 - wiring looms and harnesses
- automotive terminology relating to electrical systems.

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 automotive electrical system information that they have applied, 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 workplace or simulated workplace
- workshop or task instructions
- information regarding basic electrical principles and fundamentals
- information regarding vehicle electrical systems and components
- workplace safety equipment, including PPE
- a vehicle with the automotive electrical systems specified in the performance evidence
- automotive tools and equipment relating to workplace activities being carried out.

Links

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