



**Australian Government**

# **AURETR103 Identify automotive electrical systems and components**

**Release: 1**

# AURETR103 Identify automotive electrical systems and components

## Modification History

| Release   | Comments                                                                                                |
|-----------|---------------------------------------------------------------------------------------------------------|
| Release 1 | This version first released with AUR Automotive Retail, Service and Repair Training Package Version 6.0 |

## Application

This unit describes the skills and knowledge 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.

The unit 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.

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

## Unit Sector

Electrical Technical – Electrical and Electronics

## Elements and Performance Criteria

| ELEMENT                                                     | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Elements describe the essential outcomes.</i>            | <i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>                                                                                                                                                                                                            |
| 1. Locate and identify electrical system and its components | 1.1 Identify task requirements from task instructions including vehicle or machinery to be worked<br>1.2 Obtain technical information regarding electrical system to be identified<br>1.3 Identify electrical system major components according to workplace health and safety requirements and task instructions |
| 2. Demonstrate                                              | 2.1 Confirm system function from technical information and                                                                                                                                                                                                                                                        |

| ELEMENT                        | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                 |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| knowledge of electrical system | demonstrate during workplace activities<br>2.2 Confirm system major component function and basic operation from technical information and demonstrate during workplace activities<br>2.3 Confirm system relationship to vehicle or machinery operation is from technical information |

## Foundation Skills

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

| SKILL              | DESCRIPTION                                                                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Learning           | <ul style="list-style-type: none"><li>Locates required sources of information efficiently</li></ul>                                                                                       |
| Oral communication | <ul style="list-style-type: none"><li>Participates effectively in verbal exchanges using questioning and active listening to request, clarifies and clearly conveys information</li></ul> |
| Numeracy           | <ul style="list-style-type: none"><li>Uses and communicates basic numerical information relating to automotive electrical systems and components.</li></ul>                               |

## Unit Mapping Information

Supersedes and is equivalent to AURETR003 Identify automotive electrical systems and components.

## Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1>

# Assessment Requirements for AURETR103 Identify automotive electrical systems and components

## 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:

- identify, locate and check the operation of the following basic electrical systems while carrying out required 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

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:

- workplace health and safety (WHS) requirements relating to the identification of automotive electrical systems, 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
- basic automotive terminology relating to electrical systems.

## 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 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.

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>