



**Australian Government**

# **AURETR2015 Inspect and service batteries**

**Release 1**

## AURETR2015 Inspect and service batteries

### Modification History

Release	Comment
Release 1	Replaces AURE218670A Service, maintain or replace batteries Performance Criteria and Range Statement updated to reflect technologies

### Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes required to inspect and service batteries.</p> <p>The unit involves identifying and confirming work requirements, preparing for work, testing batteries, analysing test results, servicing and maintaining batteries, and completing work finalisation processes, including clean-up and documentation.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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### Application of the Unit

Application of the unit	<p>Work applies to light and heavy vehicle, mining, construction, agricultural, motorcycle, outdoor power equipment and marine environments.</p> <p>Work requires individuals to demonstrate some judgement and problem-solving skills in managing own work activities and contributing to a productive team environment.</p>
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### Licensing/Regulatory Information

Not applicable.

## Pre-Requisites

Not applicable.

## Employability Skills Information

<b>Employability skills</b>	This unit contains employability skills.
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## Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.
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## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to inspect battery	<p>1.1.Nature and scope of work requirements are identified and confirmed</p> <p>1.2.<b>Workplace health and safety (WHS) requirements</b>, including state and territory regulatory requirements, and <b>personal protective equipment (PPE)</b> needs, are observed throughout the work</p> <p>1.3.<b>Safe operating procedures</b> and information are sourced</p> <p>1.4.Technical requirements necessary for inspection are sourced, and tools, <b>equipment</b> and <b>materials</b> are identified and prepared</p>
2. Test battery	<p>2.1.Test methods are implemented according to workplace procedures and manufacturer and component supplier specifications</p> <p>2.2.Test results are compared with manufacturer and component supplier specifications</p> <p>2.3.Results are documented with evidence, and supporting information is recorded</p> <p>2.4.Test results and findings are communicated to the appropriate workshop personnel for replacement or repair action</p>
3. Carry out service and maintenance to battery	<p>3.1.<b>Service and maintenance methods</b> are carried out according to workplace procedures and manufacturer and component supplier specifications</p> <p>3.2.Electrolyte levels are checked and topped up where appropriate according to service and maintenance methods</p> <p>3.3.Battery terminals and connection to vehicle wiring are inspected</p> <p>3.4.Condition is reported to persons responsible for repair action</p> <p>3.5.Batteries and terminals are cleaned according to service and maintenance methods</p>
4. Prepare vehicle and equipment for delivery to customer after service is completed	<p>4.1.Final inspection is made to ensure work is to workplace expectations</p> <p>4.2.Vehicle is cleaned to workplace expectations and presented ready for use</p> <p>4.3.Workplace documentation is processed according to workplace procedures</p>
5. Clean up work area and maintain equipment	<p>5.1.Work schedule and job card documentation are completed</p> <p>5.2.Equipment and work area are cleaned and inspected for</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>serviceable condition according to workplace procedures</p> <p>5.3.Faulty equipment is identified, tagged and isolated according to workplace procedures</p> <p>5.4.Tools and equipment are maintained according to workplace procedures</p>

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

#### Required skills

- communication skills to:
  - follow verbal and written instructions
  - communicate basic information relating to battery safety
  - clarify workplace instructions and determine job requirements
  - gain information from appropriate persons and assistance as required
- initiative and enterprise skills to:
  - participate in self-improvement activities
  - recognise a workplace problem or potential problem
- literacy skills to:
  - read and interpret technical information relating to recognising and reporting unsafe situations
  - read, understand and follow battery inspection and maintenance information
  - read, understand and follow information on standard operating procedures and repair guidelines
- numeracy skills to:
  - test, measure and analyse test equipment results compared to desired battery performance
- planning and organising skills to:
  - identify risk factors to minimise risk to self and others
  - contribute to activities that implement standard workplace procedures
- problem-solving skills to refer problems outside area of responsibility to appropriate person
- self-management skills to:
  - locate and identify appropriate tools and equipment
  - locate technical information
  - recognise limitations and seek timely advice
- teamwork skills to:
  - work with others and in a team by cooperating with team members
  - work with diverse individuals and groups
- technical skills to:
  - select tools and equipment appropriate to inspecting, servicing and maintaining batteries in light and heavy vehicles, mobile plant and mining vehicles
  - use battery servicing and testing tools and equipment safely
  - maintain tools and equipment using appropriate techniques and standard operating procedures
- technology skills to use workplace technology to:

**REQUIRED SKILLS AND KNOWLEDGE**

- assist with work practices
- inspect, service and maintain battery storage systems, including use of specialist tools, measuring equipment and communication devices
- report and document inspection and servicing results

**Required knowledge**

- WHS and environmental regulations, requirements, equipment, material and personal safety requirements to ensure batteries are maintained, handled and disposed of in an environmentally sustainable manner
- battery service and maintenance procedures
- battery testing methods
- dangers of working with battery testing equipment
- operating principles and layout of vehicle battery storage systems
- original equipment manufacturer (OEM) specific procedures for inspecting maintenance-free batteries
- workplace quality procedures

## Evidence Guide

### EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

#### Overview of assessment

##### Critical aspects for assessment and evidence required to demonstrate competency in this unit

The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy all of the requirements of the performance criteria and required skills and knowledge.

A person who demonstrates competency in this unit must be able to:

- observe safety procedures and requirements
- select methods and techniques appropriate to the circumstances
- complete preparatory activity in a systematic manner
- inspect, service and maintain battery storage systems in light and heavy vehicle, mining, construction, agricultural, motorcycle, outdoor power equipment and marine environments according to manufacturer and component supplier and site requirements
- inspect, service and maintain at least three different types of batteries according to manufacturer and site requirements
- complete workplace documents.

##### Context of, and specific resources for assessment

Competency is to be assessed in the workplace or a simulated workplace environment that accurately reflects performance in a real workplace setting.

Assessment is to occur:

- using standard workplace practices and procedures
- following safety requirements
- applying environmental constraints.

Assessment is to comply with relevant:

- regulatory requirements
- Australian standards
- industry codes of practice.

The following resources must be made available for the assessment of this unit:

- workplace location or simulated workplace that best reflects a light or heavy vehicle service facility or environment
- material relevant to inspecting, servicing and maintaining



**EVIDENCE GUIDE**

	<p>battery storage systems</p> <ul style="list-style-type: none"> <li>• equipment, and hand and power tools appropriate to servicing and maintaining batteries</li> <li>• specifications and work instructions.</li> </ul>
<b>Method of assessment</b>	<p>Assessment must satisfy the endorsed Assessment Guidelines of this Training Package.</p> <p>Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with the application of required skills and knowledge.</p> <p>Assessment methods must be by direct observation of tasks and include questioning on required skills and knowledge to ensure correct interpretation and application.</p> <p>Competence in this unit may be assessed in conjunction with other units which together form part of a holistic work role.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate the needs of diverse clients.</p> <p>Assessment processes and techniques must be culturally sensitive and appropriate to the language, literacy and numeracy capacity of the candidate and the work being performed.</p>

## Range Statement

### RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<b><i>Workplace health and safety requirements</i></b> may include:	<ul style="list-style-type: none"> <li>• personal protective clothing and equipment</li> <li>• safe use of tools and equipment</li> <li>• safe handling of potentially hazardous material and substances</li> <li>• use of fire-fighting equipment</li> <li>• first aid training and response</li> <li>• control of hazards and hazardous materials.</li> </ul>
<b><i>Personal protective equipment</i></b> may include:	<ul style="list-style-type: none"> <li>• safety glasses</li> <li>• protective clothing</li> <li>• gloves.</li> </ul>
<b><i>Safe operating procedures</i></b> may include:	<ul style="list-style-type: none"> <li>• conducting operational risk assessment</li> <li>• treatments associated with vehicle movement</li> <li>• toxic substances</li> <li>• electrical safety</li> <li>• machinery movement and operation</li> <li>• manual and mechanical lifting and shifting</li> <li>• procedures for working in proximity to others and site visitors.</li> </ul>
<b><i>Tools and equipment</i></b> may include:	<ul style="list-style-type: none"> <li>• hand tools</li> <li>• load testing devices</li> <li>• hydrometer</li> <li>• multimeter.</li> </ul>
<b><i>Materials</i></b> may include:	<ul style="list-style-type: none"> <li>• battery consumables</li> <li>• cleaning materials.</li> </ul>
<b><i>Service and maintenance methods</i></b> may include:	<ul style="list-style-type: none"> <li>• inspecting battery and leads</li> <li>• inspecting battery securing system</li> <li>• cleaning battery and battery compartments</li> <li>• topping battery fluid</li> <li>• testing battery with a hydrometer.</li> </ul>

**Unit Sector(s)**

<b>Competency field</b>	Electrical
<b>Unit sector</b>	Technical – Electrical and Electronic

**Custom Content Section**

Not applicable.