



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **AURE218676A Test, service and charge batteries**

**Release: 1**

## AURE218676A Test, service and charge batteries

### Modification History

Not Applicable

### Unit Descriptor

<b>Unit descriptor</b>	This unit covers the competence to service, remove, replace and charge automotive batteries.
------------------------	--

### Application of the Unit

<b>Application of the unit</b>	<p>The unit includes identification and confirmation of work requirements, preparation for work, servicing, testing and charging of batteries, jump-starting of vehicle/equipment and completion of work finalisation processes, including clean-up and documentation.</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> <p>Work is carried out in accordance with award provisions.</p>
--------------------------------	---

### Licensing/Regulatory Information

Not Applicable

### Pre-Requisites

<b>Prerequisite units</b>		

## Employability Skills Information

<b>Employability skills</b>	This unit contains employability skills.
-----------------------------	--

## Elements and Performance Criteria Pre-Content

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

## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for work	1.1. Work instructions are used to determine job requirements, including method, process and equipment 1.2. Job specifications are read and interpreted 1.3. OHS requirements, including personal safety needs, are observed throughout the work 1.4. Equipment and tooling are identified and checked for safe and effective operation 1.5. Procedures are determined to minimise task time
2. Service batteries	2.1. Information is accessed from manufacturer/component supplier specifications and correctly interpreted 2.2. Material, components, tooling and equipment to complete work are identified, selected and prepared in accordance with site procedures 2.3. Electrolyte levels are checked and topped up in accordance with site procedures 2.4. Batteries and terminals are cleaned in accordance with site procedures 2.5. Batteries are removed and replaced safely according to site procedures
3. Charge batteries	3.1. Information for charging is accessed from manufacturer/ component supplier specifications and correctly interpreted 3.2. Components, tooling and equipment to complete work are identified, selected and prepared in accordance with site procedures 3.3. Electrolyte levels are checked and topped up in accordance with site procedures 3.4. Batteries are charged in accordance with site procedures and component manufacturer/component supplier recommendations
4. Test batteries	4.1. Information for battery testing is accessed from product and vehicle manufacturer/component supplier specifications and correctly interpreted 4.2. Components, tooling and equipment are identified, selected and prepared in accordance with site procedures 4.3. Battery tests are performed and results analysed in accordance with site procedures and

ELEMENT	PERFORMANCE CRITERIA
	<p>product/manufacturer/component supplier specifications</p> <p>4.4. Battery testing procedures are carried out in accordance with legislation, industry and enterprise policies/ procedures guidelines</p>
5. Jump-start vehicle	<p>5.1. Information is accessed from manufacturer/component supplier specifications and correctly interpreted</p> <p>5.2. Leads are connected/disconnected in correct sequence and polarity</p> <p>5.3. All work is carried out without causing damage to component or system</p> <p>5.4. Workplace documents are completed in accordance with enterprise procedures</p>
6. Clean up work area and maintain equipment	<p>6.1. Material that can be reused is collected and stored</p> <p>6.2. Waste and scrap is removed following workplace procedure</p> <p>6.3. Equipment and work area are cleaned and inspected for serviceable condition in accordance with workplace procedures</p> <p>6.4. Unserviceable equipment is tagged and faults identified in accordance with workplace requirements</p> <p>6.5. Operator maintenance is completed in accordance with manufacturer/component supplier specifications and site procedures</p> <p>6.6. Tooling and equipment is maintained in accordance with workplace procedures</p>

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

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

#### Required skills

- collect, organise and understand information related to work orders, plans and safety procedures for battery testing, charging, servicing and replacement and vehicle jump-starting
- technical literacy and communication skills sufficient to interpret and apply common industry terminology, and interpret technical information and

## REQUIRED SKILLS AND KNOWLEDGE

specifications

- research and interpretive skills to locate, interpret and apply operational and safety information
- communicate ideas and information to enable confirmation of work requirements and specifications, coordination of work with site supervisor, other workers and customers, and the reporting of work outcomes and problems
- plain English literacy and communication skills in relation to dealing with others involved in the work
- questioning and active listening skills, for example when obtaining information on battery testing, servicing and charging procedures
- plan and organise activities, including preparation and layout of worksite and obtaining of equipment and material to avoid backtracking or workflow interruptions
- work with others and in a team by recognising dependencies and using cooperative approaches to optimise workflow and productivity
- use mathematical ideas and techniques to correctly complete tests and measurements to determine serviceability of batteries
- use pre-checking and inspection techniques to anticipate planning and scheduling problems, avoid wastage of time and material
- manipulative and dexterity skills to perform battery testing, servicing and charging procedures
- problem-solving skills for a range of procedural issues
- use workplace technology related to testing, servicing, charging and replacing of batteries, including use of specialist tooling, measuring equipment, computerised technology and communication devices and the reporting/documenting of results

### Required knowledge

A working knowledge of:

- OHS regulations/requirements, equipment, material and personal safety requirements
- common automotive terminology
- types and applications of batteries
- testing, servicing and battery replacement procedures
- procedures for disposal of batteries and acids
- jump-starting and battery charging procedures
- site reporting procedures
- enterprise quality procedures
- work organisation and planning processes

## Evidence Guide

<b>EVIDENCE GUIDE</b>	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<b>Overview of assessment</b>	
<b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b>	<p>It is essential that competence in this unit signifies ability to transfer competence to changing circumstances and to respond to unusual circumstances in the critical aspects of:</p> <ul style="list-style-type: none"> <li>• observing safety procedures and requirements</li> <li>• communicating effectively with others involved in or affected by the work</li> <li>• selecting methods and techniques appropriate to the circumstances</li> <li>• completing preparatory activity in a systematic manner</li> <li>• servicing and charging batteries</li> <li>• testing batteries and jump-starting vehicles</li> <li>• removing/replacing batteries.</li> </ul>
<b>Context of, and specific resources for assessment</b>	<p>Application of competence is to be assessed in the workplace or simulated worksite.</p> <p>Assessment is to occur using standard and authorised work practices, safety requirements and environmental constraints.</p> <p>Assessment is to comply with regulatory requirements, including Australian Standards.</p> <p>The following resources should be made available:</p> <ul style="list-style-type: none"> <li>• workplace location or simulated workplace</li> <li>• material relevant to testing, servicing, charging and replacing of batteries</li> <li>• equipment, hand and power tooling appropriate to testing, servicing, charging and replacing of batteries</li> <li>• activities covering mandatory task requirements</li> <li>• specifications and work instructions.</li> </ul>
<b>Method of assessment</b>	<ul style="list-style-type: none"> <li>• Assessment must satisfy the endorsed Assessment Guidelines of AUR05 Automotive Industry Retail, Service and Repair Training Package</li> <li>• Assessment methods must confirm consistency and accuracy of performance together with application of</li> </ul>

<b>EVIDENCE GUIDE</b>	
	<p>underpinning knowledge</p> <ul style="list-style-type: none"> <li>• Assessment must be by direct observation of tasks, with questioning on underpinning knowledge and it must also reinforce the integration of key competencies</li> <li>• Assessment may be applied under project related conditions and require evidence of process</li> <li>• Assessment must confirm a reasonable inference that competence is able to be under the particular circumstance, and is able to be transferred to other circumstances</li> <li>• It is preferable that assessment reflects a process rather than an event and occurs over a period of time to cover varying quality circumstances. Evidence of performance may be provided by customers, team leaders/members or other persons subject to agreed authentication arrangements</li> <li>• Competence in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role</li> </ul>
<b>Guidance information for assessment</b>	

## Range Statement

<b>RANGE STATEMENT</b>	
<p>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, if used 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.</p>	
<b>Unit scope</b>	<ul style="list-style-type: none"> <li>• May include light vehicles, plant and equipment, heavy commercial vehicles, marine applications and outdoor power equipment</li> <li>• Competency may be applied to service, replacement and charging of batteries in electric vehicles such as golf buggies and electric forklifts</li> </ul>



<b>RANGE STATEMENT</b>	
	<ul style="list-style-type: none"> <li>Competence is applicable to batteries fitted to vehicles, plant and equipment and marine applications</li> </ul>
<b>Faults</b>	Faults may include: <ul style="list-style-type: none"> <li>internal short, excessive gassing under load and physical damage</li> </ul>
<b>OHS requirements</b>	OHS requirements are to be in accordance with legislation/regulations/codes of practice and enterprise safety policies and procedures, and may include: <ul style="list-style-type: none"> <li>protective clothing and equipment, use of tooling and equipment, workplace environment and safety, handling of material, use of fire fighting equipment, enterprise first aid, hazard control and hazardous materials and substances</li> </ul>
<b>Personal protective equipment</b>	Personal protective equipment is to include that prescribed under legislation/regulations/codes of practice and workplace policies and practices
<b>Safe operating procedures</b>	Safe operating procedures are to include, but are not limited to: <ul style="list-style-type: none"> <li>the conduct of operational risk assessment and treatments associated with vehicular movement, toxic substances, electrical safety, machinery movement and operation, manual and mechanical lifting and shifting and working in proximity to others and site visitors</li> </ul>
<b>Emergency procedures</b>	Emergency procedures related to this unit are to include but may not be limited to: <ul style="list-style-type: none"> <li>emergency shutdown and stopping of equipment, extinguishing fires, enterprise first aid requirements and site evacuation</li> </ul>
<b>Environmental requirements</b>	Environmental requirements are to include but are not limited to: <ul style="list-style-type: none"> <li>waste management, noise, dust and clean-up management</li> </ul>
<b>Quality requirements</b>	Quality requirements are to include, but are not limited to:

<b>RANGE STATEMENT</b>	
	<ul style="list-style-type: none"> <li>regulations, including Australian Standards, internal company quality policy and standards and enterprise operations and procedures</li> </ul>
<b>Statutory/regulatory authorities</b>	Statutory/regulatory authorities may include: <ul style="list-style-type: none"> <li>federal, state/territory and local authorities administering acts, regulations and codes of practice</li> </ul>
<b>Tooling and equipment</b>	Tooling and equipment may include: <ul style="list-style-type: none"> <li>testing equipment, including load tester, hydrometer, multimeter or voltmeter, battery charger, hand tooling, jumper leads and specialist tooling for adjustment</li> </ul>
<b>Materials</b>	Materials may include: <ul style="list-style-type: none"> <li>battery consumables and cleaning material</li> </ul>
<b>Communications</b>	Communications are to include, but are not limited to: <ul style="list-style-type: none"> <li>verbal and visual instructions and fault reporting and may include site specific instructions, written instructions, plans or instructions related to job/task, telephones and pagers</li> </ul>
<b>Information/documents</b>	Sources of information/documents may include: <ul style="list-style-type: none"> <li>verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, memos, material safety data sheets, diagrams or sketches</li> <li>safe work procedures related to testing, servicing, charging and replacing of batteries</li> <li>regulatory/legislative requirements pertaining to automotive industry, including Australian Design rules</li> <li>engineer's design specifications and instructions</li> <li>organisation work specifications and requirements</li> <li>instructions issued by authorised enterprise or external persons</li> <li>Australian Standards</li> </ul>

**Unit Sector(s)**

<b>Unit sector</b>	Electrical
--------------------	------------

**Co-requisite units**

<b>Co-requisite units</b>		

**Competency field**

<b>Competency field</b>	
-------------------------	--