



**Australian Government**

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

# **AURE218664A Remove and replace electrical/electronic units/assemblies**

**Release: 1**

## AURE218664A Remove and replace electrical/electronic units/assemblies

### Modification History

Not Applicable

### Unit Descriptor

|                        |                                                                                                                                                                                                                                                                                                                                                |
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| <b>Unit descriptor</b> | This unit covers competence to remove and replace units/assemblies, such as headlights, tail-lights, electrical components, and computer control units to facilitate body repair activities. Assistance from a licensed person must be sought in relation to air conditioning and LPG/NGV system/components and in recommissioning of systems. |
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### Application of the Unit

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| <b>Application of the unit</b> | <p>The unit includes identification and confirmation of work requirement, preparation for work, removal and replacement of electrical and electronic units/assemblies 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> |
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### Licensing/Regulatory Information

Not Applicable

### Pre-Requisites

|                           |  |  |
|---------------------------|--|--|
| <b>Prerequisite units</b> |  |  |
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| <b>Prerequisite units</b> |  |  |
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## Employability Skills Information

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|-----------------------------|------------------------------------------|
| <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 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. |
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## Elements and Performance Criteria

| ELEMENT                                           | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Prepare for work                               | 1.1. Work instructions are used to determine job requirements, including method, material and equipment<br>1.2. Job specifications are read and interpreted<br>1.3. OHS requirements, including dust and fume collection, breathing apparatus and eye and ear personal protection needs are observed throughout the work<br>1.4. Material for work is selected appropriate to application<br>1.5. Equipment and tooling are identified and checked for safe and effective operation<br>1.6. Procedures are determined to minimise waste material<br>1.7. Procedures are identified for maximising energy efficiency while completing the job                                             |
| 2. Remove electrical/electronic units/assemblies  | 2.1. Correct information is accessed and interpreted from manufacturer/component supplier specifications<br>2.2. Electrical/electronic units/assemblies are removed using approved methods, tooling and equipment<br>2.3. Assistance from a licensed person must be sought in relation to air conditioning and LPG/NGV system/components removal<br>2.4. Removal is completed without causing damage to component or system<br>2.5. Removal activities are carried out according to industry regulations/guidelines, OHS, legislation and enterprise procedures/policies<br>2.6. Units/assemblies are handled and stored in accordance with manufacturer/component supplier requirements |
| 3. Replace electrical/electronic units/assemblies | 3.1. Correct information is accessed and interpreted from manufacturer/component supplier specifications<br>3.2. Electrical units/assemblies are replaced using approved methods, tooling and equipment<br>3.3. Assistance from a licensed person must be sought in relation to air conditioning and LPG/NGV system/components replacement                                                                                                                                                                                                                                                                                                                                               |

| ELEMENT                                      | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                              | 3.4.Replacement is completed without causing damage to component or system<br>3.5.Replacement activities are carried out according to industry regulations/guidelines, OHS, legislation and enterprise procedures/policies                                                                                                                                                                                                                                                                                                                                                         |
| 4. Clean up work area and maintain equipment | 4.1.Material that can be reused is collected and stored<br>4.2.Waste and scrap is removed following workplace and environmental procedures<br>4.3.Equipment and work area are cleaned and inspected for serviceable condition in accordance with workplace procedures<br>4.4.Unserviceable equipment is tagged and faults identified in accordance with workplace requirements<br>4.5.Operator maintenance is completed in accordance with manufacturer/component supplier specifications and site procedures<br>4.6.Tooling is maintained in accordance with workplace procedures |

## 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 removing and replacing electrical/electronic units/assemblies
- communicate ideas and information to enable confirmation of work requirements and specifications, coordination of work with site supervisor, other workers and customers, and reporting of work outcomes and problems
- plan and organise activities, including preparation and layout of worksite and obtaining of equipment and material to avoid backtracking, workflow interruptions or wastage
- 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 calculate time, assess tolerances, apply accurate measurements, calculate material requirements and establish quality checks

**REQUIRED SKILLS AND KNOWLEDGE**

- establish safe and effective work processes which anticipate and/or resolve problems and downtime, to systematically develop solutions to avoid or minimise reworking and avoid wastage
- use workplace technology related to removal and replacement of electrical and electronic units/assemblies, including use of specialist tooling, measuring equipment and communication devices and the reporting/documenting of results

**Required knowledge**

A working knowledge of:

- OH&S regulations/requirements, equipment, material and personal safety requirements
- types, applications and external specifications of electrical/electronic units/assemblies
- sealant selection and application
- removal and replacement procedures for electrical/electronic units/assemblies
- use of tooling and equipment
- work organisation and planning processes
- enterprise quality processes
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## 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, 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

It is essential that competence is fully observed and there is ability to transfer competence to changing circumstances and to respond to unusual situations in the critical aspects of:

- observing safety procedures and requirements
- communicating effectively with others involved in or affected by the work
- selecting methods and techniques appropriate to the circumstances
- completing preparatory activity in a systematic manner
- removing and replacing a minimum of four units/assemblies to workplace and manufacturer/component supplier requirements, including:
  - one Supplementary Restraint System
  - one body electronic module
  - one engine module
- completing final functional test to specification
- connecting storing and handing units/assemblies.

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

Application of competence is to be assessed in the workplace or simulated worksite.

Assessment is to occur using standard and authorised work practices, safety requirements and environmental constraints.

Assessment is to comply with regulatory requirements, including Australian standards.

The following resources should be made available:

- workplace location or simulated workplace
- material relevant to removal and replacement of electrical and electronic units/assemblies
- equipment, hand and power tooling appropriate to removal and replacement of electrical/electronic

| <b>EVIDENCE GUIDE</b>                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                            | units/assemblies <ul style="list-style-type: none"> <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 AUR Automotive Industry Retail, Service and Repair Training Package.</li> <li>• Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge.</li> <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>                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| <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</p> |

| <b>RANGE STATEMENT</b>                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| regional contexts) may also be included.      |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Electrical/electronic units/assemblies</b> | <p>Electrical/electronic units/assemblies include:</p> <ul style="list-style-type: none"> <li>headlights, tail-lights, electrical components and computer control units to facilitate body repair activities</li> </ul>                                                                                                                                                                                                                               |
| <b>Assistance</b>                             | <p>Assistance from a licensed person must be sought in relation to air conditioning and LPG/NGV system/components and in recommissioning of systems</p>                                                                                                                                                                                                                                                                                               |
| <b>Critical precautions</b>                   | <p>Critical precautions include:</p> <ul style="list-style-type: none"> <li>manufacturer/component supplier procedures which must be applied as poor working practices are likely to damage electronic system ECUs and/or other components</li> </ul>                                                                                                                                                                                                 |
| <b>OHS requirements</b>                       | <p>OHS requirements are to be in accordance with legislation/regulations/codes of practice and enterprise safety policies and procedures, and may include:</p> <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>          | <p>Personal protective equipment is to include that prescribed under legislation/regulations/codes of practice and workplace policies and practices</p>                                                                                                                                                                                                                                                                                               |
| <b>Safe operating procedures</b>              | <p>Safe operating procedures are to include, but are not limited to:</p> <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, working in proximity to others and site visitors</li> </ul>                                                          |
| <b>Emergency procedures</b>                   | <p>Emergency procedures related to this unit are to include but may not be limited to:</p> <ul style="list-style-type: none"> <li>emergency shutdown and stopping of equipment, extinguishing fires, enterprise first</li> </ul>                                                                                                                                                                                                                      |

| <b>RANGE STATEMENT</b>                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                         | aid requirements and site evacuation                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Environmental requirements</b>       | <p>Environmental requirements are to include but are not limited to:</p> <ul style="list-style-type: none"> <li>waste management, noise, dust and clean-up management</li> </ul>                                                                                                                                                                                                                                                                                                                          |
| <b>Quality requirements</b>             | <p>Quality requirements are to include, but are not limited to:</p> <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> | <p>Statutory/regulatory authorities may include:</p> <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>            | <p>Tooling and equipment may include:</p> <ul style="list-style-type: none"> <li>hand tooling, jacking, support and lifting equipment and special equipment for removal and replacement</li> </ul>                                                                                                                                                                                                                                                                                                        |
| <b>Materials</b>                        | <p>Materials may include:</p> <ul style="list-style-type: none"> <li>minor spare parts and cleaning material</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Communications</b>                   | <p>Communications are to include, but are not limited to:</p> <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>            | <p>Sources of information/documents may include:</p> <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 and sketches</li> <li>safe work procedures related to removal and replacement of electrical/electronic units/assemblies</li> <li>regulatory/legislative requirements pertaining to automotive industry, including Australian Design Rules</li> </ul> |

**RANGE STATEMENT**

|  |                                                                                                                                                                                                                                                                           |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <ul style="list-style-type: none"><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> |
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**Unit Sector(s)**

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

**Co-requisite units**

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| <b>Co-requisite units</b> |  |  |
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|                           |  |  |

**Competency field**

|                         |  |
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| <b>Competency field</b> |  |
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