



Australian Government

AURETR006 Solder electrical wiring and circuits

Release: 1

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Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to solder electrical components, electrical circuits and system wiring. It involves preparing for the task, preparing components, circuits and wiring for soldering, carrying out soldering, and completing workplace processes and documentation.

It applies to those working in the automotive service and repair industry. The electrical wiring and circuits include those in agricultural machinery, heavy commercial vehicles, light vehicles, vessels, mobile plant machinery, motorcycles or outdoor power equipment.

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. Prepare to solder electrical wiring and circuits	1.1 Job requirements are determined according to workplace instructions 1.2 Technical procedures and information are accessed and interpreted

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.
	1.3 Hazards associated with the work are identified and risks are managed 1.4 Tools and equipment are selected and checked for serviceability
2. Prepare components, circuits and wiring for soldering	2.1 Materials and components to be joined are selected and prepared according to workplace procedures and <i>safety and environmental requirements</i> 2.2 Solder and flux type are identified and prepared 2.3 Soldering equipment is cleaned and prepared ready for use
3. Carry out soldering of components, circuits and wiring	3.1 Soldering is carried out according to workplace quality expectations, and without causing damage to vehicle, components, electrical circuits and system wiring 3.2 Soldered connection is inspected visually and checked to ensure effectiveness
4. Complete work processes	4.1 Final inspection is made to ensure work is to workplace expectations and vehicle, vessel or machinery is presented ready for use 4.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected 4.3 Tools and equipment are checked and stored and any faulty electrical equipment is identified, tagged and isolated according to workplace procedures 4.4 Workplace documentation is processed according to workplace procedures

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:	<ul style="list-style-type: none"> locate appropriate sources of information efficiently.
Reading skills to:	<ul style="list-style-type: none"> interpret text, symbols and wiring diagrams relating to soldering repair information in manufacturer specifications, and workplace instructions and procedures.
Writing skills to:	<ul style="list-style-type: none"> legibly and accurately fill out workplace documentation, recording parts and material used.

Skills	Description
Numeracy skills to:	<ul style="list-style-type: none"> interpret measurements of wire size and gauge relating to electrical wiring and circuits to select correct items measure components to determine compliance with manufacturer specifications.
Planning and organising skills to:	<ul style="list-style-type: none"> plan own work requirements and prioritise actions to achieve required outcomes and ensure tasks are completed within workplace timeframes.
Technology skills to:	<ul style="list-style-type: none"> use specialised workplace technology, including soldering irons and heat guns.

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 and environmental requirements</i> must include:	<ul style="list-style-type: none"> work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for: <ul style="list-style-type: none"> using safety data sheets (SDS) selecting and using personal protective equipment (PPE) safely handling materials during solder process safely operating soldering equipment identifying and using firefighting and first aid equipment environmental requirements, including procedures for trapping, storing and disposing of material released during soldering process.
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Unit Mapping Information

Equivalent to AURETR2006 Carry out soldering of electrical wiring and circuits

Links

Companion Volume implementation guides are found in VETNet -

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