



Australian Government

MEM18104 Dismantle, replace and assemble electrical components and equipment

Release: 2

MEM18104 Dismantle, replace and assemble electrical components and equipment

Modification History

Release 2. Prerequisite units updated

Release 1. New unit

Application

This unit has been developed for Engineering Tradesperson - industrial electrician apprenticeship training and the recognition of trade-level skills in dismantling, replacing and assembling electrical components and equipment which are designed to operate at voltages greater than 50 V alternating current (AC) or 120 V direct current (DC).

It covers dismantling and identifying faulty components, selecting replacements, and assembling electrical components into assemblies or sub-assemblies, including the safe use of hand and power tools and interpretation of mechanical drawings/diagrams.

Some jurisdictions require the holder of this unit to be licensed or certified and users should check with the relevant authorities.

Band: A

Unit Weight: 3

Pre-requisite Unit

Path 1	MEM12023	Perform engineering measurements
	MEM18001	Use hand tools

Competency Field

Maintenance and diagnostics

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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|-------------------------------|--|
| 1. Determine job requirements | 1.1 Follow standard operating procedures (SOPs) |
| | 1.2 Comply with work health and safety (WHS) requirements at all times, including appropriate risk |

- control measures
- 1.3 Use appropriate personal protective equipment (PPE) in accordance with SOPs
 - 1.4 Identify job requirements from specifications, drawings, job sheets or work instructions
2. Dismantle electrical components and equipment
- 2.1 Obtain all necessary tools, equipment and measuring devices needed to dismantle electrical components and equipment
 - 2.2 Isolate and tag circuits and equipment in accordance with procedures
 - 2.3 Inspect electrical component/equipment and analyse task requirements
 - 2.4 Select the appropriate tools and equipment
 - 2.5 Ensure all applicable handheld power tools are tested and tagged and are checked for correct operation and safety
 - 2.6 Dismantle the item according to engineering drawings, manufacturer requirements and SOPs
 - 2.7 Mark electrical components to aid in reassembly
3. Identify faulty components and select replacement
- 3.1 Obtain and interpret specifications for components from appropriate source
 - 3.2 Assess damaged or faulty components against specifications in accordance with procedures and manufacturer requirements
 - 3.3 Identify faulty components and arrange for repair, replacement or adjustment in accordance with procedures and manufacturer requirements
 - 3.4 Select replacement and/or repaired parts for reassembly in accordance with specifications and procedures
4. Assemble electrical
- 4.1 Apply appropriate techniques to assemble electrical

components and equipment

components/equipment using fastening equipment and methods which ensure conformance to specifications and operational performance

- 4.2 Select, where appropriate, correct lubrication, packing and sealing materials and apply them in accordance with job specifications
- 4.3 Inspect, test and adjust assembled electrical component/equipment as necessary for compliance with operational specifications and return to use in accordance with procedures
- 4.4 Complete documentation, including all necessary remedial action and reasons why they were carried out, in accordance with SOPs

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different 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.

Electrical components and equipment include one or more of each of the following:

- single-phase appliances – hand held power tools, fridges, microwaves, TV's, lighting motors, air conditioning units, air compressors, portable pumps, pedestal drills, lathes, bench grinders, motors, fans and fan motors
- three phase appliances – freezer units, welding machines, fan and pump motors, heaters, general commercial kitchen equipment, generators, air conditioning units, air compressors and air blowers
- DC machines
- non-rotating AC and DC equipment and components

Appropriate tools and equipment include one or more of the following:

- a range of hand and power tools
- bearing pullers
- special purpose dismantling and assembly tools

This field allows for different 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.

Testing and tagging requirements of portable tools include:

- Those identified in AS/NZS 3760:2010 In-service safety inspection and testing of electrical equipment

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>