



Australian Government

Department of Education, Employment and Workplace Relations

MEM18049B Disconnect/reconnect fixed wired equipment up to 1000 volts a.c./1500 volts d.c.

Release: 1

MEM18049B Disconnect/reconnect fixed wired equipment up to 1000 volts a.c./1500 volts d.c.

Modification History

This unit has dual status and is to be regarded as both a specialisation band A unit and Specialisation band B unit for progression to C7 (AQF level IV).

Unit Descriptor

This unit covers connecting and disconnecting equipment. This unit applies to all voltage levels up to 1000 volts a.c./1500 volts d.c.

Application of the Unit

This unit applies to disconnection of equipment including electric motors, modular sensing devices and limit switches.

Work is performed on site and may include the original connection of fixed wire equipment.

All work and work practices are undertaken to regulatory and legislative requirements.

Electrical licensing may be required by state authorities.

Licensing/Regulatory Information

Refer to Application of the Unit

Pre-Requisites

Path 1

MEM09002B Interpret technical drawing
MEM10002B Terminate and connect
electrical wiring
MEM12002B Perform electrical/electronic
measurement
MEM18001C Use hand tools

Employability Skills Information

Elements and Performance Criteria Pre-Content

Elements are the essential outcomes of the unit of competency.

Together, performance criteria specify the requirements for competent performance. Text in *italics* is explained in the range statement following.

Elements and Performance Criteria

Elements and Performance Criteria

Element	Performance Criteria
1 Disconnect equipment	1.1 Electrical characteristics of equipment and circuit are determined by reference to circuit drawings, schematics, reference manuals, equipment specifications, identification plate and/or consultation with technical adviser. 1.2 Where appropriate, equipment characteristics are determined and recorded to standard operating procedures (rotation etc.). 1.3 Point/s of isolation are identified using correct and appropriate procedure. 1.4 Equipment is isolated using correct and appropriate techniques and procedures. 1.5 All lock-off equipment and signage requirements are used correctly and appropriately. 1.6 Electrical isolation is proven using correct and appropriate techniques, procedures and test equipment. 1.7 Conductor layout is noted, recorded and labelled to standard operating procedure. 1.8 Conductors are disconnected using correct and appropriate techniques, procedures, tools and equipment. 1.9 Disconnected cables/connections are terminated and made safe to standard operating procedures.

2 Connect equipment

- 2.1 Characteristics of the equipment to be connected are identified and connection requirements are determined.
- 2.2 Circuit is checked for safe isolation using correct and appropriate techniques, procedures and test equipment.
- 2.3 Connections are checked and conductors are prepared for termination using correct and appropriate tools and procedures.
- 2.4 Conductors are connected to equipment to specifications using correct and appropriate techniques, tools and equipment.
- 2.5 All cables/wires/conduit are fastened/sealed to specifications using correct and appropriate techniques, tools and equipment.
- 2.6 All lock-off equipment and signage are removed using standard operating procedures.
- 2.7 Equipment and circuit are checked and tested for compliance with specifications using correct and appropriate techniques, procedures, tools and equipment.

3 Perform emergency first aid

- 3.1 Situation is assessed to identify points of danger to the injured person and potential rescuer.
- 3.2 Rescue/recovery of injured person or assistance to injured person is undertaken in accordance with recognised standards/procedures. Contact is made with the appropriate medical and rescue authorities.
- 3.3 Details of first aid given are recorded.

Required Skills and Knowledge

Evidence Guide

The evidence guide specifies the evidence required to demonstrate achievement in the unit of competency as a whole. It must be read in conjunction with the unit descriptor, performance criteria, range statement and the assessment guidelines for the Metal and Engineering Training Package

Overview of assessment requirements

A person who demonstrates competency in this unit must be able to disconnect/reconnect fixed wired equipment up to 1000 volts a.c./1500 volts d.c. Competency in this unit cannot be claimed until all prerequisites have been satisfied.

Context of assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

Interdependent assessment

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with disconnecting/reconnecting fixed wired equipment up to 1000 volts a.c./1500 volts d.c., or other units requiring the exercise of the skills and knowledge covered by this unit.

Method of assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have

access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Consistency of performance

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.

Required skills

Look for evidence that confirms skills in:

determining and recording equipment characteristics and isolation points from relevant circuit diagrams, specifications, schematics of fixed wired equipment

isolating fixed wired equipment

using lock-off equipment and tags/signs

proving electrical isolation

labelling conductors and recording their layout

disconnecting conductors

making safe disconnected cables/connections

checking circuits for safe isolation prior to reconnecting

checking connections and preparing conductors for termination

connecting conductors to equipment

fastening/sealing cables/wires/conduits to specifications

removing lock-off equipment and signage

checking and testing equipment and circuits for conformance to specifications

applying procedures for movement/treatment of injured, including:

safe rescue of victim from a live situation

clearing of airways

CPR (cardio-pulmonary resuscitation)

care of spinal injuries

treatment of cuts/lesions etc.

treatment of burns/scalds

treatment of shock

using language and literacy skills to meet recording and reporting requirements related to this unit

Required knowledge

Look for evidence that confirms knowledge of:

basic knowledge of electrical theory for the operation of the circuit/equipment

hazards associated with the circuits and the equipment

relevant regulatory requirements

procedures for determining equipment characteristics

procedures for recording equipment characteristics

tools, techniques and equipment required to determine equipment characteristics

point(s) of isolation for the fixed wired equipment

reasons for selecting the chosen isolation point(s)

safe isolation and proving dead

the range of isolation procedures for the fixed wired equipment

lock-off equipment and signs to be used

reasons for using and procedures for lock-off equipment and signage

tools, techniques and equipment to be used to prove electrical isolation

procedures for proving and removing electrical isolation

procedures for labelling conductors and recording conductor layout

tools, techniques and equipment to be used to disconnect conductors

procedures for disconnecting conductors

procedures for terminating disconnected cables/connections

characteristics of the circuit and the equipment

tools, techniques and equipment to be used to terminate conductors and check connections

procedures for terminating conductors and checking connections

specifications for the connections to be made

tools, techniques and equipment to be used to connect the conductors to the equipment

procedures for connecting conductors to equipment

tools, techniques and equipment to be used to fasten and seal the cables, wires and conduits

procedures for fastening and sealing cables, wires and conduits

operational specifications of the fixed wired equipment

tools, techniques and equipment to be used to check and test the compliance of the equipment with specifications

procedures for checking the operation of the equipment and circuits

potential dangers

recognised procedures for the movement and treatment of the injured person

appropriate local medical and rescue services

procedures for recording first aid

Range Statement

The range statement provides information about the context in which the unit of competency is carried out. The variables and scope cater for different work requirements, work practices and knowledge between States, Territories and the Commonwealth, and between organisations and workplaces. The range statement relates to the unit as a whole and provides a focus for assessment. Text in italics in the performance criteria is explained here.

The following variables may be present and may include, but are not limited to, the examples listed under the scope. All work is undertaken to relevant legislative requirements, where applicable

Variable	Scope
Equipment	As defined in the licensing requirements
Isolation refers to	Safe disconnection of all electrical power to equipment or equipment supply circuits via switching, circuit breakers or fuses etc. On circuits/equipment using up to 1000 volts a.c. or 1500 volts d.c. single or multi-phase supply
Test equipment	Voltmeters, multimeters, tong testers and a range of hand tools such as pliers, screwdrivers, sockets and spanners
Connect equipment	Refers to reconnection of existing equipment or the replacement on a 'like for like' basis with no alteration to existing fixed wiring

Unit Sector(s)

Competency field

Maintenance&diagnostics

Band

A

Related units

If power tools are used, Unit MEM18002B (Use power tools/hand held operations) must also be selected.

Where installation and testing of electrical wiring and circuitry up to 1000 volts a.c. and 1500 volts d.c. is required Unit MEM10003B (Install and test electrical wiring and circuits up to 1000 volts a.c./1500 volts d.c.) must be selected.

Unit Weight

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