



Australian Government

Department of Education, Employment and Workplace Relations

**MEM18050B Disconnect/reconnect fixed
wired equipment over 1000 volts a.c./1500
volts d.c.**

Release: 1

MEM18050B Disconnect/reconnect fixed wired equipment over 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 above 1000 volts a.c./1500 volts d.c.

Application of the Unit

This unit applies to work performed on site and undertaken using predetermined standards of quality, safe work procedures and regulatory and legislative requirements. Persons undertaking this work would be appropriately recognised and endorsed by relevant statutory authorities where required.

Licensing/Regulatory Information

Pre-Requisites

Path 1	MEM09002B Interpret technical drawing MEM10002B Terminate and connect electrical wiring MEM12002B Perform electrical/electronic measurement MEM18001C Use hand tools
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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	<ul style="list-style-type: none">1.1 Electrical characteristics of equipment and circuit are determined by reference to circuit drawings, schematics, reference manuals, equipment specifications, identification plates and/or consultation with technical adviser.1.2 Where appropriate, equipment characteristics are determined and recorded to standard operating procedures (rotation etc.).1.3 Points of isolation are identified using correct and appropriate procedures incorporating access permits where required.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 procedures.1.8 Conductors are disconnected using correct and appropriate techniques, procedures, tools and equipment.1.9 Disconnected cables/connections are made safe to standard operating procedures and access permits are issued where required.
2 Connect equipment	<ul style="list-style-type: none">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 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 is removed using standard operating procedures.
 - 2.7 Equipment and circuit is checked and tested for compliance to 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 and contact is made with 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 over 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 over 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 from relevant circuit diagrams, specifications, schematics

correctly identifying the point(s) of isolation of fixed wired equipment

proving electrical isolation

isolating fixed wired equipment

applying earths and lock-off equipment and signs

labelling conductors and recording their layout

disconnecting conductors

terminating disconnected cables/connections

checking circuits for safe isolation

checking connections and preparing conductors for termination

connecting conductors to equipment

fastening/sealing cables/wires/conduits to specifications

removing earths and lock-off equipment and signage

checking and testing equipment and circuits for conformance to specifications

applying procedures for movement/treatment of injured, including:

HV rescue

clearing of airways

CPR (cardio-pulmonary resuscitation)

care of spinal injuries

treatment of cuts/lesions etc.

treatment of burns/scalds

treatment of shock

identifying possible risks associated with this work

reading and interpreting routine information on written job instructions, specifications and standard operating procedures

following oral instructions

Required knowledge

Look for evidence that confirms knowledge of:

any applicable industry standards, national/Australian standards, NOHSC guides, State/Territory regulatory codes of practice/standards

use and application of personal protective equipment for disconnecting/reconnecting fixed wired equipment over 1000 volts a.c./1500 volts d.c.

safe work practices and procedures

characteristics of the circuit and the equipment

hazards associated with the circuits and the equipment

relevant regulatory requirements

point(s) of isolation for the fixed wired equipment and reasons for selecting the

particular isolation point(s)

reasons for using earthing, lock-off equipment and signs

clearances from live parts

safe isolation

specifications for the connections to be made

operational specifications of the fixed wired equipment

potential dangers of the work covered in this unit

recognised procedures for the movement and treatment of the injured person

appropriate local medical and rescue services

procedures for incident reporting

procedures, techniques, tools and equipment to be used for:

determining and recording equipment characteristics

isolating the fixed wired equipment

proving electrical isolation

labelling conductors and recording conductor layout

disconnecting conductors

terminating disconnected cables/connections

checking circuits for safe isolation

terminating conductors and checking connections

connecting the conductors to the equipment

fastening and seal the cables, wires and conduits

removing lock-off equipment and signage

checking the operation of the equipment and circuits

checking and testing the compliance of the equipment with specifications

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
Appropriate techniques and procedures	Includes clearances for safe approach as mandated by statutory authorities
Isolation	Isolating supply for safe disconnection of all electrical power to equipment supply circuit with switch circuit breaker or fuses etc.
Connection	Disconnection/reconnection and making safe for maintenance of equipment
Circuit	Applies to voltage levels above 1000 volts a.c. and 1500 volts d.c.
Tools and equipment	In accordance with voltage and fault limiting requirements appropriate proving dead meters, high potential testers, voltmeters and a range of hand held tools such as pliers, screwdrivers, sockets, spanners, keys, earthing links, operating sticks etc.
Signage	Tags, access permit holders, restricted access signs

Unit Sector(s)

Band

A

Competency field

Maintenance&diagnostics

Unit Weight

3

Related units

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