



Australian Government

MEM18108 Troubleshoot analog and digital electronic equipment

Release: 2

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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 troubleshooting analog/digital electronic equipment down to sub-assembly and/or card level where a series of checks and pre-determined tests is applied in accordance with workshop manuals and testing procedures.

It applies to a wide range of electronic systems and sub-assemblies used in an industrial environment.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 4

Pre-requisite Unit

Path 1	MEM12023	Perform engineering measurements
	MEM18001	Use hand tools
	MEM18104	Dismantle, replace and assemble electrical components and equipment

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 | 1.1 Follow standard operating procedures (SOPs) |
|------------------|---|

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
requirements	1.2 Comply with work health and safety (WHS) requirements at all times 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. Troubleshoot electronic equipment	2.1 Determine the function of electronic equipment by reference to circuit diagrams, equipment manuals and/or consultation with equipment operator, where appropriate 2.2 Run equipment built-in test functions and record results, where appropriate 2.3 Note and record built-in faults/status display 2.4 Apply diagnostic techniques to locate faults in electronic equipment, including the use of specialist test equipment 2.5 Isolate and remove faulty card or sub-assembly from electronic system using appropriate tools and techniques 2.6 Source replacement item and replace in accordance with manufacturer specifications
3. Return electronic equipment to service	3.1 Adjust/tune or calibrate electronic equipment for conformance to specifications, where appropriate 3.2 Test repaired equipment/sub-assemblies for compliance to specifications and/or manufacturer requirements 3.3 Complete all documentation requirements according to 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.

Electronic equipment includes one or more of the following:

- amplifiers
- analog/digital hardware
- telecommunication
- consumer audio/video
- electronic appliances
- process control
- computer systems
- security monitoring and alarm systems
- scanning systems
- fire systems
- power supplies
- test equipment

Fault-finding techniques include one or more of the following:

- signal injection
- substitution
- monitoring
- measurement
- visual

Test equipment includes one or more of the following:

- continuity testers
- ammeters
- voltmeters
- cathode ray oscilloscopes (CROs)
- frequency counters
- signal generators
- digital probes

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>