



Australian Government

**MEM18069 Maintain, repair
instrumentation process control analysers**

Release: 1

MEM18069 Maintain, repair instrumentation process control analysers

Modification History

Release 1. Supersedes and is equivalent to MEM18069B Maintain, repair instrumentation process control analysers

Application

This unit of competency defines the skills and knowledge required to perform preventative maintenance on process control analysers; complete fault documentation; plan corrective action; repair, replace, overhaul, calibrate and test; re-install and recommission process control analysers and applies to the use of electrical and electronic test equipment for transmission and signal measurement.

Central to the task is the interpretation of electrical and electronic circuit diagrams and the interpretation of calibration and analysis data and procedures in accordance with manufacturers' data sheets.

Where soldering of components is required to advanced or military specifications, where the reliability of electrical connections is critical, or where surface mounted devices are being soldered/desoldered then unit MEM05002 Perform high reliability soldering and desoldering should also be selected.

Where diagnosis and repair of electronic equipment is undertaken to component level then unit MEM18056 Diagnose and repair analog equipment and components and unit MEM18065 Diagnose and repair digital equipment and components, should also be selected as appropriate.

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

Band: B

Unit Weight: 6

Pre-requisite Unit

MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12023	Perform engineering measurements
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information

MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations
MEM18054	Fault find, test and calibrate instrumentation systems and equipment
MEM18055	Dismantle, replace and assemble engineering components

Plus, one or more of the following including their prerequisites:

MEM18062	Install, maintain and calibrate instrumentation sensors, transmitters and final control elements
MEM18064	Maintain instrumentation system components

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.

1	Determine job requirements	1.1	Follow standard operating procedures (SOPs)
		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	Perform preventative maintenance on process control analysers	2.1	Determine specification requirements from manufacturers' manuals, maintenance schedules and other relevant documents
		2.2	Interpret and define specification requirements by applying principles of operation and process control analyser characteristics

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	<p>2.3 Perform preventative maintenance schedules on process control analysers to service and maintain analysers within defined specifications</p> <p>2.4 Diagnose specified process control analysers within the system or within the laboratory to determine correct operation or malfunction using appropriate electrical and electronic test equipment, techniques, data and procedures</p> <p>2.5 Identify and confirm faults and malfunctions</p>
3 Complete fault documentation and plan corrective action	<p>3.1 Document or report faults and malfunctions according to SOPs</p> <p>3.2 Plan corrective action autonomously or in consultation with appropriate personnel and action</p>
4 Repair, replace, overhaul process control analysers	<p>4.1 Examine process control analysers and verify for repair, replacement or overhaul</p> <p>4.2 Select replacement items from manufacturers' parts lists or catalogues according to specifications</p> <p>4.3 Repair or overhaul faulty items using appropriate principles, techniques, tools, equipment and procedures</p> <p>4.4 Refit repaired, overhauled and replacement process control analysers</p> <p>4.5 Prepare refitted process control analysers for testing and calibration</p>
5 Calibrate and test process control analysers	<p>5.1 Calibrate process control analysers against appropriate physical standards using correct calibration devices, equipment, techniques and procedures</p> <p>5.2 Test calibrated process control analysers using appropriate test equipment</p>

Elements describe the essential outcomes.

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

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| 5.3 | Collect and interpret calibration and analysis data |
| 5.4 | Assess calibration and analysis data in accordance with manufacturers' data sheets, codes of practice and safety procedures |
| 6 | <p>Re-install and recommission process control analysers</p> |
| 6.1 | Put process control analysers into service to specifications with due regard to process requirements, codes of practice, safety, commissioning procedures and techniques |
| 6.2 | Complete service reports 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.

- Tasks include the use of one (1) or more of the following:**
- hygrometers
 - wet and dry bulb
 - calibration of gas cylinders and gas supply equipment
 - the use of chemical calibration solutions
 - the use of special calibration devices specific to chemical detectors
 - gas analysis devices
 - liquid analysis devices

- Safety codes of practice includes one (1) or more**
- identification handling and appropriate use of high pressure gas cylinders

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of the following:

- equipment
- chemical solutions

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet -

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