



Australian Government

MEM18023 Modify fluid power system operation

Release: 2

MEM18023 Modify fluid power system operation

Modification History

Release 2. Quantum of hours of workplace practice removed. Supersedes and is equivalent to MEM18023 Modify fluid power system operation (Release 1).

Release 1. Supersedes and is equivalent to MEM18023B Modify fluid power system operation.

Application

This unit of competency defines the skills and knowledge required to determine the requirements of the modification, undertake the modification and evaluate the modified or repaired fluid power system.

Tasks are undertaken based on analysis of service/maintenance reports and defective components, sub-assemblies and design faults are identified and appropriate redesign action is commissioned.

Preparation for redesign specifications and associated drawing changes/modifications are personally undertaken or delegated to appropriate personnel and supervised.

Where the modification requires the knowledge of programmable logic control (PLC) program installation or commissioning is required unit MEM10004 Enter and change programmable controller operational parameters and unit MEM10005 Commission programmable controller programs, should be selected as appropriate.

Where equipment condition monitoring and recording is required unit MEM18010 Perform equipment condition monitoring should also be selected.

Where analysing of plant and equipment condition monitoring results is required unit MEM18016 Analyse plant and equipment condition monitoring results should also be selected.

Where graphical techniques and simple statistical computations are required, unit MEM12025 Use graphical techniques and perform simple statistical computations should also be selected.

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

Band: B

Unit Weight: 8

Pre-requisite Unit

MEM09002 Interpret technical drawing

MEM11011 Undertake manual handling

MEM12023	Perform engineering measurements
MEM12024	Perform computations
MEM13015	Work safely and effectively in manufacturing and engineering
MEM14006	Plan work activities
MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations
MEM18003	Use tools for precision work
MEM18006	Perform precision fitting of engineering components
MEM18018	Maintain pneumatic system components
MEM18019	Maintain pneumatic systems
MEM18020	Maintain hydraulic system components
MEM18021	Maintain hydraulic systems
MEM18022	Maintain fluid power controls
MEM18055	Dismantle, replace and assemble engineering 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	<table><tr><td>1.1</td><td>Follow standard operating procedures (SOPs)</td></tr><tr><td>1.2</td><td>Comply with work health and safety (WHS) requirements at all times</td></tr><tr><td>1.3</td><td>Use appropriate personal protective equipment (PPE) in accordance with SOPs</td></tr></table>	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
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Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
		1.4	Identify job requirements from specifications, drawings, job sheets or work instructions
2	Determine modification requirements	2.1	Interpret and analyse service/maintenance reports and system output information
		2.2	Identify defective components, sub-assemblies and design faults using knowledge and principles of fluid power systems
		2.3	Verify defective components and design faults using appropriate means and techniques
		2.4	Develop corrective action plan in consultation with appropriate personnel
		2.5	Investigate modification/design options to overcome parts failure or design faults
		2.6	Develop and select most appropriate modifications design option and repair specifications
3	Undertake modifications to fluid power systems	3.1	Select replacement components from appropriate sources
		3.2	Undertake modifications or delegate to appropriate personnel and supervise
		3.3	Record modifications and document
4	Monitor and evaluate repaired or modified fluid power system	4.1	Monitor modified/repaired fluid power systems and assess operation system for compliance with operational specifications
		4.2	Evaluate modifications/repairs for effectiveness, efficiency and compliance with operational specifications
		4.3	Recommend further corrective action, where applicable, to appropriate personnel, instigate and monitor until desired efficiencies/outcomes are achieved

Elements describe the essential outcomes.

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

4.4 Complete evaluation reports

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.

- Analysis includes:**
- interpretation and integration of data from process controls, instrumentation and condition monitoring systems and consultation with appropriate personnel

Unit Mapping Information

Release 2. Supersedes and is equivalent to MEM18023 Modify fluid power system operation (Release 1).

Release 1. Supersedes and is equivalent to MEM18023B Modify fluid power system operation.

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for MEM18023 Modify fluid power system operation

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- obtaining, interpreting and analysing service/maintenance and system output information
- identifying and verifying defective components, sub-assemblies and design faults using appropriate tools, equipment and techniques
- investigating modification requirements, including obtaining relevant information, to overcome parts failure or design faults in consultation with appropriate personnel
- undertaking modifications to fluid power systems and checking and evaluating the operation of the modified/repaired fluid power system for compliance with operational specifications
- recording/reporting modifications in accordance with SOPs
- initiating and monitoring further corrective action until desired efficiencies/outcomes are achieved
- completing evaluation reports on the modifications/repairs in accordance with standard operating procedures.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- fluid power system performance, faults history and variations from operational specification
- faults attributable to poor design and defective components/sub-assemblies
- appropriate test equipment and applications and techniques for verifying design faults
- personnel to be consulted during the modification process
- specifications and sources of information pertaining to the selected modification/design option

- modification/design options available to overcome system faults
- most appropriate modification/design option, including cost and benefits
- procedures for undertaking the selected modification/design option
- replacement components conforming to predetermined specifications from manufacturer's catalogues
- modifications to be undertaken
- revised operational specification of the fluid power system
- frequency of checks for compliance against operational specifications
- effectiveness and efficiency of the modifications/repairs and any variations from operational specifications
- any further modifications/repairs that could improve the effectiveness and efficiency of the fluid power system
- personnel to whom recommendations are to be made
- appropriate reporting requirements for recording/reporting modifications to fluid power systems.

Assessment Conditions

- Assessors must:
 - have vocational competency in modifying fluid power system operation at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires.
- Assessment must occur in a functioning workplace. Where assessment in the workplace would be unsafe, impractical or threatens the environment, assessment must occur in a sufficiently rigorous simulated environment that reflects the circumstances that would be experienced in a functioning workplace. Assessment must cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

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