



Australian Government

Department of Education, Employment and Workplace Relations

MEM18071B Connect/disconnect fluid conveying system components

Release: 1

MEM18071B Connect/disconnect fluid conveying system components

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers safely removing/replacing a range of fluid conveying components and assemblies, and inspecting/testing fluid conveying assemblies.
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Application of the Unit

Application of the unit	<p>This unit applies to repairs and replacement to pressure and suction systems on fixed and mobile plant/equipment, including marine, heavy plant and manufacturing plant applications.</p> <p>Fluid conveying system applications may include, but are not limited to, hydraulic, pneumatic, water, gas, acids/corrosives/alkalines, abrasives, petroleum and other dry/wet media.</p> <p>System pressures would typically range from MEM10005B MPa to 35 MPa, ranging up to 70 MPa. Functional testing of fluid conveying components and assemblies may include in-situ and high pressure test rigs.</p> <p>This unit should not be selected when Unit MEM18055B (Dismantle, replace and assemble engineering components) or Unit MEM18052B (Maintain fluid power systems for mobile plant) has already been selected.</p> <p>Band: A</p> <p>Unit Weight: 2</p>
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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM13003B	Work safely with industrial chemicals and materials
	MEM18001C	Use hand tools

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Disconnect fluid conveying components and assemblies	1.1. Safety/risk assessment is carried out, potentially hazardous situations/conditions are identified and safety devices are positioned as required. 1.2. Fluid conveying conductor lay out is noted, recorded and labelled to standard operating procedures. 1.3. Faulty component/assembly is identified using specific trouble-shooting procedures, reference documents and fluid power principles. 1.4. Fluid conveying components and assemblies are disconnected and removed using appropriate techniques, procedures, tools and equipment. 1.5. Open system is adequately sealed with standard or special purpose sealing materials.
2. Obtain replacement parts	2.1. Replacement parts are selected from manufacturer catalogues and other relevant reference sources according to international standards and specifications.
3. Test and store components	3.1. Fluid conveying assemblies and individual components are pressure tested according to industry and manufacturer standards and using fluid power principles. 3.2. Condition is assessed and noted according to standard operating procedures. 3.3. Components/assemblies are cleaned, sealed and stored according to industry and manufacturer standards.
4. Connect fluid conveying components and assemblies	4.1. Connections are checked and prepared for reconnection. 4.2. Components and assemblies are connected to equipment to specifications using appropriate techniques. 4.3. Tagged out equipment, signage and safety blocking devices are removed according to standard operating procedures. 4.4. Equipment and fluid conveying systems are checked and tested for correct operation according to manufacturer and industry standards.
5. Report results	5.1. Reporting and certification procedures are followed. 5.2. All relevant information is completed and correct.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- identifying potentially hazardous situations
- tagging, locking off safety/security
- locating faulty component
- neutralising pressures
- removing components/assemblies
- applying safe working practices
- sealing system
- interpreting reference materials to identify required part(s)
- performing pressure testing
- undertaking condition and serviceability assessment
- cleaning, sealing and storing components
- connecting components
- testing components
- completing routine reports

Required knowledge

Look for evidence that confirms knowledge of:

- different sources of stored energy and their applications
- hazardous situations/conditions
- OHS responsibilities of customer and self
- safety/security lock-off devices and signage
- the reasons for installing lock-off devices and signage
- the procedures for installing lock-off devices and signage
- procedures to record and label components
- trouble shooting techniques
- techniques, procedures and safety practices including neutralisation of pressures
- standard and specific sealing materials and techniques
- different fluid conveying parts and their function
- techniques and safety practices for pressure testing
- basic functions of fluid power systems, including: effects of heat/contamination; pressures, flow rates and temperatures; hose strength and size; effect of media on hoses; test, operational and burst pressures

REQUIRED SKILLS AND KNOWLEDGE

- criteria for assessment
- storage methods and requirements
- methods of cleaning, sealing and storing
- criteria for checking connection
- techniques for connection
- procedure for removal
- testing procedures
- safety requirements
- reporting procedures and media for reporting
- required information

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to connect/disconnect fluid conveying system components. Competency in this unit cannot be claimed until all prerequisites have been satisfied.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>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.</p>
<p>Context of and specific resources for assessment</p>	<p>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.</p> <p>This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with connecting/disconnecting fluid conveying system components or other units requiring the exercise of the skills and knowledge covered by this unit.</p>
<p>Method of assessment</p>	<p>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.</p>

EVIDENCE GUIDE

Guidance information for assessment	
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Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Potentially hazardous situations/conditions	Accumulated pressure, contamination, fluid handling
Reference documents	Manufacturer product catalogues, tables and charts, schematic diagrams
Components and assemblies	High pressure seals, seats, hoses, tubes, pipes, fittings, connectors, adaptors and anchors, and other associated attachments

Unit Sector(s)

Unit sector	
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Co-requisite units

Co-requisite units		

Competency field

Competency field	Maintenance and diagnostics
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