



Australian Government

MEM18072 Manufacture fluid conveying conductor assemblies

Release: 1

MEM18072 Manufacture fluid conveying conductor assemblies

Modification History

Release 1. Supersedes and is equivalent to MEM18072B Manufacture fluid conveying conductor assemblies

Application

This unit of competency defines the skills and knowledge required to perform assembly and functional testing of fluid conveying components and assemblies.

Conductor assemblies may apply to positive and negative pressure systems on fixed and mobile plant/equipment, including marine, heavy plant and manufacturing plant applications with system pressures range of 10.5 MPa to 35 MPa, ranging up to 70 MPa.

Where interpretation of technical drawings is required unit MEM09002 Interpret technical drawing should also be selected.

Where the selection and use of engineering measurement is required unit MEM12023 Perform engineering measurements should also be selected.

This unit should not be selected when unit MEM18055 Dismantle, replace and assemble engineering components or unit MEM27017 Maintain, fault find and rectify hydraulic systems for mobile plant has already been selected.

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

Band: A

Unit Weight: 4

Pre-requisite Unit

MEM05006	Perform brazing and/or silver soldering
MEM11011	Undertake manual handling
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information
MEM18001	Use hand tools

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, job sheets or work instructions |
| | | | |
| 2 | Manufacture/repair fluid conveying system conductors and assemblies | 2.1 | Identify conductor requirements and select appropriate materials/fittings to suit application |
| | | 2.2 | Prepare conductor materials for assembly |
| | | 2.3 | Assemble conductors to specification |
| | | 2.4 | Dismantle faulty fluid conveying system conductors and repair to manufacturer/industry standards and specifications |
| | | | |
| 3 | Check/test conductor assemblies | 3.1 | Test operation of fluid conveying components and assemblies against current industry standards and manufacturer specifications using fluid power principles and relevant reference documents |
| | | 3.2 | Identify faulty fluid conveying components and assemblies and confirm failure and/or potential to fail by inspection and testing using fluid power conveying principles, procedures, equipment and safety practices |
| | | 3.3 | Assemble manufactured/repaired components, test in-situ or using high pressure test rigs and verify operation to ensure compliance with required specifications and standards |

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.

Components and assemblies include one (1) or more of the following:

- high pressure seals
- seats
- hoses
- tubes
- pipes
- fittings
- connectors
- adaptors and anchors
- other associated attachments

Fluid conveying applications include (1) one or more of the following:

- hydraulic
- pneumatic
- water
- gas
- acids/corrosives/alkalines
- abrasives
- petroleum
- other dry/wet media

Manufactured/assembly includes the use of one (1) or more of the following:

- hose – skive and measurement tools
- crimping and cleaning machines
- lathes

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM18072B Manufacture fluid conveying conductor assemblies

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 MEM18072 Manufacture fluid conveying conductor assemblies

Modification History

Release 1. Supersedes and is equivalent to MEM18072B Manufacture fluid conveying conductor assemblies

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
- identifying and interpreting tables and charts, equipment specifications, circuit and schematic diagrams and obtaining relevant data with respect to manufacturing fluid conveying conductor assemblies
- preparing and assembling conductors using appropriate tools and equipment to specifications and industry standards
- performing pressure testing on fluid conveying assemblies and individual components and identifying faulty items and confirming failure or potential to fail and carrying out appropriate remedial action
- testing and verifying correct operation of components to ensure compliance to manufacturer and industry standards using appropriate test equipment and rigs
- completing routine reports and certification 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)
- conductor materials and fittings for a range of applications and media (fluid types)
- methods for preparation of different conductors, including hose and pipe assemblies
- different methods for assembling hose and pipe assemblies
- dismantle and repair procedures
- operational function and characteristics of fluid conveying installation and application category types
- industry standards and manufacturer specifications
- procedures to assemble, clean, test and assess operation
- fluid power conveying principles, procedures and safety requirements.

Assessment Conditions

- Assessors must:
 - have vocational competency in manufacturing fluid conveying conductor assemblies 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
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, 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.

Links

Companion Volume implementation guides are found in VETNet -

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