



Australian Government

Department of Education, Employment and Workplace Relations

MEM18072B Manufacture fluid conveying conductor assemblies

Release: 1

MEM18072B Manufacture fluid conveying conductor assemblies

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers performing assembly and functional testing of fluid conveying components and assemblies. A range of fluid conveying components and assemblies is manufactured/assembled that may include high pressure seals, seats, hoses, tubes, pipes, fittings, connectors, adaptors and anchors, and other associated attachments.
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Application of the Unit

Application of the unit	This unit applies to the manufacture of fluid conveying components on systems such as hydraulic, pneumatic, water, gas, acids/corrosives/alkalines, abrasives, petroleum and other dry/wet media. Conductor assemblies may apply to positive and negative pressure systems on fixed and mobile plant/equipment, including marine, heavy plant and manufacturing plant applications. Testing may be in-situ or using high pressure test rigs. System pressures would typically range from MEM10005B MPa to 35 MPa, ranging up to 70 MPa. Where brazing/soldering is required, Unit MEM05006B (Perform brazing and/or silver soldering) should also be selected. This unit is not to 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. Band: A Unit Weight: 4
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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	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. Manufacture fluid conveying system conductors	1.1. Conductor requirements are identified and appropriate materials/fittings are selected to suit application. 1.2. Conductor materials are prepared for assembly. 1.3. Conductors are assembled to specification.
2. Repair faulty conductors and assemblies	2.1. Faulty fluid conveying system conductors are dismantled and repaired to manufacturer/industry standards and specifications.
3. Check/test conductor assemblies	3.1. Operation of fluid conveying components and assemblies is tested against current industry standards and manufacturer specifications using fluid power principles and relevant reference documents. 3.2. Faulty fluid conveying components and assemblies are identified and failure/potential to fail is confirmed by inspection and testing using fluid power conveying principles, procedures, equipment and safety practices. 3.3. Manufactured/repaired components are assembled, cleaned, tested and correct operation verified to ensure compliance with required specifications and standards.

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 materials/fittings with reference to circuit drawings, schematics, reference manuals and equipment specifications
- preparing existing conductors
- assembling conductors
- applying safety practices
- following enterprise procedures
- identifying faults/potential faults

REQUIRED SKILLS AND KNOWLEDGE

- inspecting for compliance/non-compliance with specifications

Required knowledge

Look for evidence that confirms knowledge of:

- 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, including swaging, crimping, brazing/soldering
- dismantle and repair procedures
- operational function and characteristics of fluid conveying installation and application category types
- industry standards and manufacturer specifications
- procedure to assess operation
- fluid power conveying principles, procedures and safety requirements
- procedures to assemble, clean, test

Evidence Guide

EVIDENCE GUIDE

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.

Overview of assessment

A person who demonstrates competency in this unit must be able to manufacture fluid conveying conductor assemblies. Competency in this unit cannot be claimed until all prerequisites have been satisfied.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

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.

Context of and specific resources for assessment

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.

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with manufacturing fluid conveying conductor assemblies or other units requiring the exercise of the skills and knowledge covered by this unit.

Method of assessment

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.

EVIDENCE GUIDE**Guidance information for assessment****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.

Conductor

Hoses, tubes, pipes, fittings, connectors, adaptors and anchors and other associated attachments

Assembled

Hose - skive and measurement tools, crimping and cleaning machines, lathes

Reference documents

Manufacturer product catalogues, tables and charts, schematic diagrams

Unit Sector(s)**Unit sector****Co-requisite units****Co-requisite units**

Competency field

Competency field	Maintenance and diagnostics
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