



Australian Government

**Assessment Requirements for MEM27017
Maintain, fault find and rectify hydraulic
systems for mobile plant**

Release: 1

Assessment Requirements for MEM27017 Maintain, fault find and rectify hydraulic systems for mobile plant

Modification History

Release 1. Supersedes and is equivalent to MEM18052B Maintain fluid power systems for mobile plant

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 specifications, charts, lists, drawings and other applicable reference documents to maintain hydraulic systems on mobile plant
- identifying sources of stored energy and hazardous situations/conditions, including bleeding down accumulators and position actuators, and applying appropriate safety measures
- fault finding hydraulic system down to component level using appropriate fluid power principles and procedures
- inspecting and testing components using appropriate equipment in accordance with procedures
- identifying and tracing fieldbus circuits and control modules related to hydraulic systems on equipment
- removing/refitting faulty components to system, including pipes, hoses, conductors and fittings and where appropriate cutting and assembling conductors to length using appropriate tooling/machine, techniques and procedures
- undertaking calculation and numerical operations associated with maintaining fluid power systems on mobile plant
- testing and adjusting replacement components for correct operation and compliance to specifications
- dismantling linear actuators without damage using appropriate tools, techniques/procedures and safety measures and using specifications to identify performance/condition of cylinders and rams for wear and damage
- fitting seals and bearings and reassembling cylinder/ram in accordance with manufacturer instructions
- refitting and testing assembly to machine and verifying repairs on machine circuit and/or test rig to specifications
- carrying out general servicing of hydraulic system in accordance with manufacturer instructions
- recording/reporting service activities in accordance with SOPs.

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)
- different sources of stored energy and their applications and reasons for bleeding accumulators and actuators and the hazards associated with working on pressurised systems
- open circuit hydraulic systems, including:
 - applications
 - fixed displacement pump systems, including simple Open centre DCV systems and closed centre with bypass (3 port) compensator inlet
 - variable displacement pump systems, including pre and post-compensated systems
 - open centre systems
 - pump control systems, including proportional displacement control for open circuit pumps
 - common faults and preventative maintenance
- closed circuit systems, including:
 - applications
 - simple fixed/variable pumps with manual control
 - common faults and preventative maintenance
- full range of hydraulic system components in a mobile plant application
- information on circuit diagram or manufacturer instructions
- characteristics and operational function of each system component
- impact of other equipment systems on the hydraulic system
- methods and techniques for tracing and localising faults and problems and reasons relating to faulty hydraulic system components/ operation in accordance with specifications
- procedures for:
 - inspecting and testing hydraulic system components and equipment to be used
 - checking and adjusting the system
 - dismantling linear actuators and tools, techniques, procedures and safety measures to be used
 - fitting bearings and seals
 - reassembly/fitting of cylinder/ram and sequence to be used
 - testing and verifying repairs using machine circuits and/or test rigs and necessary remedial action
- common faults in hydraulic components
- specifications and correct operation of each hydraulic system component and conductors
- removal methods for various components
- information in catalogues or electronic media and procedures to obtain replacement parts
- typical conductor types and fittings their applications
- methods for cutting/assembling hoses/tubes/pipework

- tools and techniques for fitting replacement components and conductors
- methods of inspection and measurement and guides and specifications for reusable parts
- manufacturer scheduled service timeframes, service items and service procedures.

Assessment Conditions

- Assessors must:
 - have vocational competency in maintaining, fault finding and rectifying hydraulic systems for mobile plant 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>