



Australian Government

Department of Education, Employment and Workplace Relations

MEM18020B Maintain hydraulic system components

Release: 1

MEM18020B Maintain hydraulic system components

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers checking hydraulic system components, and identifying and repairing or replacing faulty components.
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Application of the Unit

Application of the unit	Hydraulic system components are identified, inspected and assessed using fluid power principles to predetermined specifications interpreted from data sheets and circuits diagrams. Work is undertaken using predetermined standards of safety, quality and work procedures. Repairs and replacements are undertaken to site or manufacturers' specifications. Correct operational function of equipment components is confirmed and commissioned in conformance to specifications, using standard operating procedures. For straightforward removals/replacement of components from a hydraulic system, Unit MEM18055B (Dismantle replace and assemble engineering components) or Unit MEM18071B (Connect/disconnect fluid conveying system components) should be regarded as sufficient. Band: A Unit Weight: 4
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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM09002B	Interpret technical drawing
	MEM12023A	Perform engineering measurements
	MEM18001C	Use hand tools
	MEM18002B	Use power tools/hand held operations
	MEM18003C	Use tools for precision work
	MEM18006C	Repair and fit engineering components
	MEM18055B	Dismantle, replace and assemble engineering components

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. Check hydraulic system components	1.1. System components are identified correctly. 1.2. The characteristics and operational function of each system component are understood. 1.3. The operational function of each component is inspected and tested. 1.4. Correct operation of each component is assessed against specifications.
2. Identify and repair or replace faulty hydraulic system components	2.1. Faulty system components are localised and malfunction is confirmed by inspection and testing using fluid power principles, procedures and safety requirements. 2.2. Faulty system components are dismantled and rectified to manufacturers'/site specifications. 2.3. Replacement parts are selected from manufacturers' catalogues according to required specifications. 2.4. System components are reassembled and tested for correct operation and assessment against specifications. 2.5. Correct operation of the hydraulic system is confirmed to designated operating procedure. 2.6. Appropriate follow-up procedures are adopted according to standard operating procedures. 2.7. Where appropriate, service reports are completed using standard operating procedures.

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:

- inspecting a range of hydraulic system components in accordance with standard operating procedures
- reading, interpreting and following relevant data sheets, specifications, hydraulic circuits, drawings, instructions and manuals

REQUIRED SKILLS AND KNOWLEDGE

- checking the individual components within the hydraulic system for correct operation
- dismantling and rectifying faulty system components to manufacturers'/site specifications in accordance with standard operating procedures
- where appropriate, selecting replacement parts from the manufacturers'/suppliers' catalogues
- reassembling and testing the hydraulic system components
- checking the operation of the hydraulic system for conformance to specification
- checking repaired/replaced hydraulic system components for correct operation
- completing service reports where appropriate

Required knowledge

Look for evidence that confirms knowledge of:

- the full range of hydraulic system components
- characteristics and operational function of each hydraulic system component
- procedures for inspecting and testing hydraulic system components
- equipment required to test hydraulic system components
- specifications of each hydraulic system component
- hydraulic components not operating in accordance with specifications
- reasons for hydraulic components not operating in accordance with specification
- individual components within the hydraulic system
- safety procedures to be followed when working on hydraulic components
- where appropriate, faulty system components
- procedure for repairing hydraulic system components
- parts to be replaced
- reasons for replacing the parts identified
- the correct operation of the hydraulic system
- procedures for checking hydraulic system operation
- where appropriate, the follow-up procedures with respect to repaired/replaced hydraulic system components
- reporting/recording procedures
- reasons for completing service reports for hydraulic system components repaired/replaced
- hazards associated with maintaining hydraulic system components, including housekeeping
- safe work practices and procedures

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 maintain hydraulic system components. 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 maintaining hydraulic system components 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.

Hydraulic system components

Hydraulic system components may include static and dynamic seals, linear and semi-rotary actuators, fixed displacement and variable displacement pumps, pressure control valves, directional control valves, flow control valves, hydraulic motors, reservoirs, contamination control components (filtration), fluid conductors/fittings and other associated equipment.

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

Competency field

Competency field	Maintenance and diagnostics
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