Australian Government

Department of Education, Employment and Workplace Relations

MEM18018C Maintain pneumatic system components

Release: 1

MEM18018C Maintain pneumatic system components

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers checking pneumatic system components, and identifying and repairing or replacing faulty components.

Application of the Unit

Application of the unit	Pneumatic 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. Correct operational function of equipment components is confirmed and commissioned in conformance with specification, using standard operating procedures. For straightforward removals/replacement of components from a pneumatic 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**

Licensing/Regulatory Information

Not Applicable

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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.

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 pneumatic 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, repair or replace faulty pneumatic 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 repaired to manufacturers'/site specifications. 2.3. Replacement parts are selected from manufacturers' catalogue according to required specifications. 2.4. System components are reassembled and verified for correct operation and tested against specifications. 2.5. Correct operation of the pneumatic system is confirmed to standard operating procedures. 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 and testing pneumatic system components • obtaining, interpreting and following written job instructions, specifications, standard operating procedures, charts, lists, drawings, relevant data sheets and other applicable reference documents • planning and sequencing operations

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REQUIRED SKILLS AND KNOWLEDGE
• checking and clarifying task-related information • checking individual components within the pneumatic system for correct operation • dismantling and repairing faulty system components • selecting replacement parts from manufacturers'/suppliers' catalogues • assembling pneumatic system components • testing pneumatic components for correct operation and conformance to specifications • checking the operation of the pneumatic system for conformance to specification • checking repaired/replaced pneumatic system components for correct operation • completing service reports
Required knowledge
Look for evidence that confirms knowledge of: • the full range of pneumatic system components • characteristics/operational function of each component • procedures for inspecting and testing pneumatic system components • equipment to test pneumatic system components • the specifications of each pneumatic system component • faulty system components • causes of faulty pneumatic components • individual components within the pneumatic system • the safety procedures for working on pneumatic components • the procedure for repairing pneumatic system components • procedures for checking pneumatic system operation • follow-up procedures with respect to repaired/replaced pneumatic system components • reporting/recording procedures • hazard and control measures associated with maintaining pneumatic system components, including housekeeping • safe work practices and procedures

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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 pneumatic 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 pneumatic 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.

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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.	
Pneumatic system components	Static and dynamic seals, linear and semi-rotary actuators, pressure control valves, directional control valves, flow control valves, normally open and closed timers, counters, pneumatic motors, fluid conductors and other associated equipment
Repair/replace	Repairs and replacements are conducted to site or manufacturers' specifications

Unit Sector(s)

Unit sector	

Co-requisite units

Co-requisite units		

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Competency field

Competency field	Maintenance and diagnostics

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