



Australian Government

Department of Education, Employment and Workplace Relations

MEM18041B Maintain steering systems

Release: 1

MEM18041B Maintain steering systems

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers assessing steering system operation, and repairing or replacing faulty components.
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Application of the Unit

Application of the unit	<p>The unit covers a number of steering systems for vehicles, mobile plant and equipment - manual, hydraulically assisted, full hydraulic, articulated and track type systems such as hydrostatic, clutch and differential steering systems.</p> <p>Band: A</p> <p>Unit Weight: 4</p>
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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

Prerequisite units		
	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. Assess steering system operation	1.1. Relevant information is obtained and correctly interpreted prior to any testing. 1.2. Performance tests are undertaken on primary and/or emergency steering systems safely and to prescribed procedures. 1.3. Flows, pressures, alignment angles are correctly determined and recorded. 1.4. Faults are correctly isolated to component level and appropriate corrective action is determined. 1.5. Power assisted steering component functions, wheel/axle alignment principles, terminology and applications are understood. 1.6. Test equipment is used correctly.
2. Repair/replace faulty components	2.1. Component wear and clearances are correctly determined using appropriate test equipment and manufacturers' recommendations. 2.2. Replacement components are correctly selected using manufacturers' data. 2.3. Components are removed and refitted following prescribed procedures. 2.4. Alignment adjustments are made that bring wheel/axles in line with specifications. 2.5. Test and rectification activities are accurately recorded. 2.6. Adjustments are made to primary and/or emergency steering systems that bring system in line with specifications.

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:

- reading, interpreting and following information on written job instructions, specifications, standard operating procedures, charts, lists, drawings and other

REQUIRED SKILLS AND KNOWLEDGE

- applicable reference documents
- planning and sequencing operations
- checking task-related information
- checking for conformance to specification
- testing steering system for correct performance
- recording all test results and measurements
- using all test equipment correctly and appropriately
- measuring steering system components using appropriate tools, techniques and equipment
- removing and refitting steering system components
- selecting replacement components using manufacturers' data
- aligning wheels and axles to specification
- undertaking calculations and numerical operations within the scope of this unit
- recording test and rectification activities
- adjusting the steering system in accordance with specifications

Required knowledge

Look for evidence that confirms knowledge of:

- operation of the steering system and its components
- procedures for testing steering system performance and tests to be undertaken
- the tools, techniques and equipment necessary to maintain and rectify steering systems
- the reasons for selecting the chosen tools, techniques and equipment
- the precautions to be taken when testing steering systems
- procedures for recording test results
- identification of faulty components and corrective action to be taken
- the reasons for selecting the chosen corrective action
- the operation of power assisted steering systems
- the effects of wheel/axle alignment on steering system operation
- measuring equipment to be used
- the procedures for checking components for wear and clearance
- the procedures and precautions for removing and refitting steering system components
- the procedures for aligning wheels and axles
- the procedures for recording test and rectification activities
- the procedures for adjusting primary and emergency steering systems
- the effect of adjustments on the steering system specifications
- safe work practices and procedures
- hazard and control measures associated with maintaining and rectifying steering systems, including housekeeping

Evidence Guide

EVIDENCE GUIDE	
<p>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.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to maintain steering systems. Competency in this unit cannot be claimed until all prerequisites have been satisfied.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>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.</p>
<p>Context of and specific resources for assessment</p>	<p>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.</p> <p>This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with maintaining steering systems, or other units requiring the exercise of the skills and knowledge covered by this unit.</p>
<p>Method of assessment</p>	<p>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. 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.</p>

EVIDENCE GUIDE

Guidance information for assessment	
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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.

Steering system

Manual, hydraulically assisted, full hydraulic, articulated and track type systems such as hydrostatic, clutch and differential steering systems for vehicles, mobile plant and equipment

Unit Sector(s)

Unit sector	
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Co-requisite units

Co-requisite units	

Competency field

Competency field	Maintenance and diagnostics
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