



Australian Government

MEM27009 Diagnose and rectify braking systems

Release: 1

MEM27009 Diagnose and rectify braking systems

Modification History

Release 1. Supersedes and is equivalent to MEM18035B Diagnose and rectify braking systems

Application

This unit of competency defines the skills and knowledge required to check and assess braking systems, and replace/repair/overhaul braking system components associated with mobile equipment.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 6

Pre-requisite Unit

MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12023	Perform engineering measurements
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations
MEM18055	Dismantle, replace and assemble engineering components

Competency Field

Fixed and mobile plant

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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|---|---|-----|--|
| 1 | Determine job requirements | 1.1 | Follow standard operating procedures (SOPs) |
| | | 1.2 | Comply with work health and safety (WHS) requirements at all times |
| | | 1.3 | Use appropriate personal protective equipment (PPE) in accordance with SOPs |
| | | 1.4 | Identify job requirements from specifications, drawings, job sheets or work instructions |
| 2 | Check and assess braking system | 2.1 | Identify braking system types, components and arrangements, including anti-lock systems |
| | | 2.2 | Apply knowledge of friction and heat principles and component functions to check and assess braking system operation |
| | | 2.3 | Assess braking system, including control devices, for compliance with relevant specifications, regulations and standards |
| | | 2.4 | Assess serviceability of friction materials, discs and drums |
| | | 2.5 | Assess braking system communication and control modules and bus connections for correct operation and compliance with specifications |
| | | 2.6 | Measure and record minimum operating dimensions and determine corrective action |
| | | 2.7 | Diagnose faults to component level and determine appropriate corrective action |
| 3 | Rectify and overhaul braking system components | 3.1 | Interpret characteristics of surface finishes and wear patterns associated with braking components |
| | | 3.2 | Interpret measurements and part condition when determining reuse/replacement |

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 3.3 Remove braking system components and disassemble
- 3.4 Clean components using appropriate fluid and procedure
- 3.5 Adjust friction material to reaction member clearance to specification
- 3.6 Ensure system is free of leaks/restrictions after repair work
- 3.7 Adjust all levers, linkages and pedal clearances to specifications
- 3.8 Recommission and test braking system according to manufacturer recommendations or appropriate standard/regulation

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

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Braking system arrangements include one (1) or more of the following:

- air
- hydraulic
- air over hydraulics
- mechanical
- electric
- disc
- multi-wet disc
- drum
- wheel brakes
- track brakes
- anti-locking braking systems
- transmission brakes and service
- park and emergency brakes

Braking system control devices include one (1) or more of the following:

- communication and control circuit cabling and connectors
- bus systems
- data logger connections for braking system
- power circuits and connectors for modules

Relevant regulations/standards include one (1) or more of the following:

- Australian Design Rules
- mines regulations
- transport regulations

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>