Australian Government

# AURHTB003 Overhaul hydraulic and air over hydraulic braking system components

**Release: 1**

# AURHTB003 Overhaul hydraulic and air over hydraulic braking system components

## Modification History

| Release | Comment |
|---|---|
| **Release 1** | New unit of competency. |

## Application

This unit describes the performance outcomes required to return hydraulic and air over hydraulic braking system components to original manufacturer tolerances and clearances. It involves preparing for the task, dismantling and evaluating the braking system components, carrying out the overhaul procedures, reassembling and testing the braking system components, and completing workplace processes and documentation.

It applies to those working in the automotive service and repair industry. The braking systems include those of agricultural machinery, heavy commercial vehicles or mobile plant machinery.

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

## Competency Field

Mechanical - Heavy Vehicle

## Unit Sector

Technical - Brakes

## Elements and Performance Criteria

| **Elements**<br>Elements describe the essential outcomes. | **Performance Criteria**<br>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section. |
|---|---|
| 1. Prepare to dismantle braking system | 1.1 Job requirements are determined from workplace instructions<br>1.2 Dismantling information is sourced and interpreted |

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|---|---|
| components | 1.3 Dismantling options are analysed and those most appropriate to the circumstances are selected<br>1.4 Hazards associated with the work are identified and risks are managed<br>1.5 Dismantling tools and equipment are selected and checked for serviceability |
| 2. Dismantle and evaluate braking system and components | 2.1 Braking system is dismantled in a logical sequence according to manufacturer and workplace procedures, and ***safety and environmental requirements***, and without causing unnecessary damage to components or systems<br>2.2 Components are cleaned for evaluation according to workplace procedures and safety and environmental requirements<br>2.3 Components are measured and compared with manufacturer specifications and serviceability is determined<br>2.4 Component repair method is determined<br>2.5 Unserviceable parts are identified and replacement parts sourced |
| 3. Carry out overhaul | 3.1 Overhaul information is sourced and interpreted<br>3.2 Overhaul options are analysed and those most appropriate to the circumstances are selected<br>3.3 Overhaul tools and equipment are selected and checked for serviceability<br>3.4 Components are machined, repaired and replaced as required, and adjustments are carried out according to manufacturer specifications, workplace procedures, and safety and environmental requirements, and without causing damage to components or systems |
| 4. Assemble components | 4.1 Braking system components are assembled according to manufacturer specifications, workplace procedures, and safety and environmental requirements<br>4.2 Tolerances and clearances are measured against manufacturer specifications and necessary adjustments are made<br>4.3 Assembly of braking system components is completed within workplace timeframes and without causing damage to other components or systems<br>4.4 Post-assembly testing is carried out according to workplace procedures and safety and environmental requirements, and any problems detected as having been introduced during the assembly process are rectified |

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|---|---|
| 5. Complete work processes | 5.1 Final inspection is made to ensure work is to workplace expectations and braking system components are presented ready for use or storage<br>5.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected<br>5.3 Tools and equipment are checked and stored according to workplace procedures<br>5.4 Workplace documentation is processed according to workplace procedures |

## Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

| **Skills** | **Description** |
|---|---|
| Learning skills to: | • locate sources of information for braking system components efficiently. |
| Reading skills to: | • interpret and assess information from manufacturer and workshop literature when seeking braking system component specifications and procedures. |
| Writing skills to: | • legibly and accurately fill out workplace documentation when reporting diagnostic findings, making repair recommendations, and recording parts and material used. |
| Oral communication skills to: | • clarify instructions, report evaluation findings and make overhaul recommendations. |
| Numeracy skills to: | • measure braking system components and use basic mathematical operations, including addition, subtraction, multiplication and division, to calculate distances, areas, volumes, tolerances and deviations from manufacturer specifications. |
| Planning and organising skills to: | • plan own work requirements and prioritise and sequence actions to achieve required outcomes and ensure tasks are completed within workplace timeframes. |
| Technology skills to: | • use precision measuring equipment, such as vernier calipers and micrometers<br>• use specialised braking system component overhaul equipment, |

| Skills | Description |
|---|---|
| | such as brake discs and drum lathes. |

## Range of Conditions

This section specifies 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. Bold italicised wording, if used in the performance criteria, is detailed below.

| | |
|---|---|
| ***Safety and environmental requirements*** must include: | • work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for:<br>  • operating specialised braking system component overhaul tools, equipment and machinery<br>  • using chemicals and toxic substances<br>  • operating for manual and mechanical lifting equipment<br>  • working with stored energy<br>• environmental requirements, including procedures for trapping, storing and disposing of oils and fluids released from braking systems. |

## Unit Mapping Information

Equivalent to AURHTB4003 Overhaul braking system components (heavy)

## Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1