

## SERVICE VEHICLE BRAKING SYSTEMS

**UNIT CODE: ENG/OS/AUT/CR/5/4/A**

**UNIT DESCRIPTION:**

This unit specifies competencies required to service vehicle braking system. It involves, inspecting braking system parts, removing, dismantling, cleaning and examining braking system components, servicing/repairing/ replacing and assembling braking system components, fitting braking system components and carrying out adjustments, testing and reporting.

**ELEMENTS AND PERFORMANCE CRITERIA**

| <b>Element</b><br><i>These describe the key outcomes which make up workplace function.</i> | <b>Performance Criteria</b><br><i>These are assessable statements which specify the required level of performance for each of the elements.</i><br><i>(<b>Bold and italicized terms are elaborated in the Range</b>)</i>   |
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| 1. Inspect braking system parts  | 1.1 Vehicle is parked and prepared in accordance with workshop procedures<br>1.2 <b>Tools and equipment</b> are assembled as per workshop procedures<br>1.3 Personal protective clothing and equipment ( <b>PPEs</b> ) used as per safety regulations<br>1.4 Vehicle braking system is tested as per service manual<br>1.5 Braking system inspection checklist is filled as per <b>workshop procedures</b> |
| 2. Remove, dismantle, clean and examine braking system components                          | 2.1 <b>Braking system components</b> are removed as per manufacturers manual<br>2.2 Brake system components are cleaned as per <b>SOPs</b><br>2.3 Brake components are examined as per SOPs<br>2.4 Worn/damaged components are identified according to the SOPs  |
| 3. Service/Repair/ Replace and assemble braking system components                          | 3.1 Braking system components are serviced according to the service manual<br>3.2 Replacement parts are verified against manufacturers' part numbers<br>3.3 Worn/damaged brake parts are replaced as per manufacturer's manual<br>3.4 Braking system components are assembled in accordance with manufacturers' specification  |
| 4. Fit braking system components and carry out adjustments                                 | 4.1 Braking system components are fitted as per manufacturers manual<br>4.2 Adjustments are carried out as per manufacturers specifications  |

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|                    | 4.3 Brake bleeding is carried out as per manufacturers manual  |
| 5. Test and report | <p>5.1 Braking system performance is tested as per manufacturers manual</p> <p>5.2 Braking system service and repair report is prepared and shared with relevant personnel according to workshop procedures</p> <p>5.3 Work area is cleaned in accordance with work shop procedures</p> <p>5.4 Waste is disposed as per OSH Act-2007</p> |

## RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

| Variable   | Range  |
|--|--|
| 1. Tools and equipment may include but is not limited to:        | <ul style="list-style-type: none"> <li>• Assorted spanners</li> <li>• Pliers</li> <li>• Oil can</li> <li>• Jack</li> <li>• Axle stands</li> <li>• Car hoist</li> <li>• Hammers</li> <li>• Bleeding can and pipes</li> </ul>  |
| 2. PPEs may include but is not limited to:                       | <ul style="list-style-type: none"> <li>• Overall</li> <li>• Safety boots</li> <li>• Gloves</li> </ul>  |
| 3. Workshop procedures may include but is not limited to:        | <ul style="list-style-type: none"> <li>• Service manual</li> </ul>   |
| 4. Brake units and components may include but is not limited to: | <ul style="list-style-type: none"> <li>• Servo unit (booster)</li> <li>• Master cylinder</li> <li>• Calipers</li> <li>• Disc (rotor)</li> <li>• Drum</li> <li>• Brake pads and linings</li> <li>• Wheel cylinders</li> <li>• Brake adjusters</li> <li>• Actuators</li> <li>• ABS unit</li> <li>• Flexible/steel pipes</li> </ul> |

| Variable                                   | Range  |
|--|--|
|  | <ul style="list-style-type: none"> <li>• Parking brake cable.</li> </ul>   |
| 5. SOPs may include but is not limited to: | <ul style="list-style-type: none"> <li>• Company policy</li> <li>• Filing system</li> <li>• Record management procedures</li> <li>• Client satisfaction management procedures</li> </ul> |

## REQUIRED KNOWLEDGE AND SKILLS

### Required knowledge

The individual needs to demonstrate knowledge of:

- Legislative and organizational requirements and procedures
- Kenyan legislation and workplace procedures
- Legal requirements relating to the vehicle and its construction
- Workplace procedures
- documenting assessment and rectification information.
- Relationship between time, costs and profitability
- reporting anticipated delays to relevant person(s) promptly.
- The use of technical information including:
- Operation of braking systems

### Required Skills

The individual needs to demonstrate the following skills

- Proficient in ICT
- Time management
- Problem solving
- Communications (verbal and written)
- Planning
- Decision making
- Multitasking
- First aid
- Report writing
- Record keeping
- Driving
- Dismantling
- Assembling
- Inspecting
- Measuring
- Interpreting
- Examining
- Listening
- Team work

## EVIDENCE GUIDE

This provides advice on assessment and must be in conjunction with the performance criteria, required skills and knowledge and range.

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|--|---|
| <p>1. Critical Aspects of Competency.</p>      | <p>1.1 Assessment requires evidence that the candidate:<br/>           1.2 Assembled tools and equipment appropriately<br/>           1.3 Used technical information correctly<br/>           1.4 Examined parts correctly<br/>           1.5 Prepared recommendations for the repair of brake components correctly<br/>           1.6 Repaired/serviced/replaced and reassembled braking components correctly<br/>           1.7 Fitted braking components correctly<br/>           1.8 Carried out braking system adjustments correctly<br/>           1.9 Carried out brake bledding correctly<br/>           1.10 Tested braking system performance correctly<br/>           1.11 Prepared braking system service /repair report appropriately<br/>           1.12 Shared braking system service /repair report appropriately<br/>           1.13 Finalized servicing activities to conform vehicle operating specifications within specified timeframe.<br/>           1.14 Disposed waste appropriately</p> |
| <p>2. Resource Implications.</p>               | <p><b><i>The following resources must be provided:</i></b><br/>           2.1 A workshop that is fully equipped for servicing vehicles braking systems including a vehicle lift, specialist tools and equipment appropriate for the different makes of vehicles that are being serviced<br/>           2.2 Personal protection equipment<br/>           2.3 Instruments and equipment for measuring and assessing the condition of brake units<br/>           2.4 Specialist equipment for servicing ABS brake units<br/>           2.5 Access to manufacturers' technical information<br/>           2.6 Facilities for the disposal of waste oil, fluids and scrap parts<br/>           2.6 Customer database and systems for recording service records</p>   |
| <p>3. Methods of Assessment</p>                | <p>Competency may be assessed through:<br/>           3.1 Observation<br/>           3.2 Oral Questioning<br/>           3.3 Written Tests</p>  |
| <p>4. Context of Assessment</p>                | <p>Competency may be assessed individually in an actual workplace or in work-simulated conditions within accredited institutions and during Industrial Attachment</p>   |
| <p>5. Guidance information for assessment.</p> | <p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>   |