

SERVICE VEHICLE BRAKING SYSTEM

UNIT CODE: ENG/OS/AUT/CR/7/5/A

UNIT DESCRIPTION:

This unit specifies competencies required to service motor vehicle braking system. It involves, assess vehicle braking system, dismantle wheel brake assembly parts, assess braking components, replace wheel brake assembly parts, replace brake cylinders and service brake system

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA <i>(Bold and italicized terms are elaborated in the Range)</i>
1. Assess vehicle braking system	1.1 Tools and equipment are used as per service manual 1.2 Personal protective clothing and equipment PPE is used as per workshop regulations 1.3 Vehicle braking system is tested in accordance with service manual 1.4 Braking system performance is verified according to the service manual 1.5 Braking system observation checklist is filled as per company policy
2. Dismantle wheel brake assembly parts	2.1 Vehicle is parked and prepared in accordance with workshop procedures 2.2 Sources of technical information are used as per service manual 2.3 Brake components are dismantled as per service manual and checklist 2.3 Lubricants and fluids are drained and disposed in accordance with Occupational Safety and Health regulations OSHA 2007
3. Assess braking components	3.2 Brake components are cleaned in accordance with the service manual 3.3 Brake components are assessed in accordance with manufacture's specifications 3.4 Worn/damaged components are identified according to the service manual 3.5 Compatibility of replaceable parts is verified against manufacturers part numbers
4. Replace wheel brake assembly parts	4.1 Brake pads and linings are replaced in accordance to manufacturer's specifications 4.2 Brake calipers and drum are replaced according manufacturer's specifications

ELEMENT	PERFORMANCE CRITERIA <i>(Bold and italicized terms are elaborated in the Range)</i>
	4.3 Brake flexible pipes are replaced as per the manufacturer's specifications 4.4 Brake adjusters/actuators (HCV) are replaced as per the manufacturer's specifications 4.5 Parking brake cables are serviced/replaced according to the manufacturer's manual
5. Replace brake cylinders	5.1 Brake master cylinder is replaced/serviced according manufacturer's manual 5.2 Brake wheel cylinder is replaced/serviced as per the manufacturer's specifications 5.3 Brake booster is serviced as per the manufacturer's manual
6. Service brake system	6.1 Drum/disc brakes are assembled according to the manuals 6.2 Brake fluid is replenished and system bleeding is carried out as per service manual 6.3 Brake booster and ABS system is serviced according to the manufacturer's specifications 6.4 Braking system is adjusted (Dynamometer test) as per the workshop manual 6.5 Auxiliary brakes are serviced according the manufacturer's manual 6.7 Service and repair activities are completed within an <i>agreed time frame</i> 6.8 Service and repair <i>records</i> are completed in accordance with Standard Operating Procedures

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. Brake units and components may include but is not limited to:	<ul style="list-style-type: none"> • Servo unit (booster) • Master cylinder • Calipers • Disc (rotor) • Drum • Brake pads and linings • Wheel cylinders • Brake adjusters • Actuators

Variable	Range
	<ul style="list-style-type: none"> • ABS unit • Flexible pipes • Parking brake cable.
2. Assessment.	<ul style="list-style-type: none"> • Corrosion • Seizure • Serviceable • Unserviceable • Within or outside tolerances • Necessitates adjustment
3. Records.	<ul style="list-style-type: none"> • Job cards • Company IT system • Customer database
4. Agreed timescale.	<ul style="list-style-type: none"> • Manufacturers' recommended work times • Job times set by the company • Job time agreed with a specific customer

REQUIRED SKILLS AND KNOWLEDGE

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

Required knowledge

The individual needs to demonstrate knowledge of:

- Legislative and organizational requirements and procedures
- Workplace procedures for:
 - assessment and rectification procedures
 - Operation of brake systems
 - Brake units and components removal and replacement
 - selection and use of sealants, seals, fittings and fasteners
 - testing and evaluation brake system units
- Operating specifications and any legal requirements

- Appropriate test methods

EVIDENCE GUIDE

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

1. Critical Aspects of Competency.	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> 1.1 Worked in a safe and clean environment using personal protection and appropriate tools and equipment 1.2 Observed regulations concerned with health and safety and the disposal of waste 1.3 Used technical information to remove and dismantle brake components and assess components against manufacturers' specifications; 1.4 Prepared recommendations for the repair of brake components 1.5 Repaired, reassembled and replaced brake components in accordance with manufacturers' specifications 1.6 Finalized servicing activities to conform to vehicle operating specifications within specified time frame 1.7 Performed vehicle road test appropriately
2. Resource Implications.	<p><i>The following resources must be provided:</i></p> <ul style="list-style-type: none"> 2.1 A workshop that is fully equipped for servicing light motor vehicle brake systems including a vehicle lift, specialist tools and equipment appropriate for the different makes of vehicles that are being serviced 2.2 Instruments and equipment for measuring and assessing the condition of brake units 2.3 Specialist equipment for servicing ABS brake units 2.4 Access to manufacturers' technical information 2.5 Facilities for the disposal of waste oil, fluids and scrap parts 2.6 Customer database and systems for recording service records 2.7 Personal protection equipment.
3. Methods of Assessment.	<p><i>Competency may be assessed through:</i></p> <ul style="list-style-type: none"> 3.1 Observation 3.2 Oral questioning 3.3 Written Test
4. Context of Assessment.	<p>Competency may be assessed individually in an actual workplace or in work-simulated conditions within accredited institutions and during Industrial Attachment.</p>
5.Guidance information for assessment.	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>