



Australian Government

AURBTB101 Service and repair bicycle mechanical braking systems

Release: 1

AURBTB101 Service and repair bicycle mechanical braking systems

Modification History

Release	Comments
Release 1	This version first released with AUR Automotive Retail, Service and Repair Training Package Version 6.0

Application

This unit describes the skills and knowledge required to service and repair bicycle mechanical braking systems. The unit involves preparing for the work, selecting and using specialist tools and equipment, planning, inspecting, servicing and repairing, and testing the bicycle braking system, and completing workplace processes and documentation.

The unit applies to those working in the bicycle retail, service and repair industry.

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

Unit Sector

Bicycle Technical - Brakes

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to service and repair bicycle mechanical braking system	1.1 Determine job requirements from workplace instructions 1.2 Access and interpret manufacturer specifications, workplace procedures and other relevant technical information 1.3 Identify hazards associated with the work and manage risks 1.4 Select and check tools and equipment, including personal protective equipment (PPE), for serviceability 1.5 Plan work to avoid damage to bicycle, minimise waste and use time efficiently
2. Inspect and diagnose braking system	2.1 Inspect mechanical braking system for faults and worn or damaged components using visual inspection methods and comparison of measurements against manufacturer

ELEMENTS	PERFORMANCE CRITERIA
	specifications 2.2 Determine condition of bicycle braking system in line with system specifications and customer requirements 2.3 Identify service and repair options 2.4 Document and cost service and repair items for customer approval according to workplace procedures
3. Carry out service and repair of braking system	3.1 Use tools and equipment according to workplace procedures and manufacturer specifications 3.2 Carry out service and repair of mechanical braking system according to work plan and safety and environmental requirements 3.3 Check and fit required replacement parts according to manufacturer specifications 3.4 Check and test braking system specifications for required operation in a safe location 3.5 Make adjustments to braking system as required according to workplace procedures
4. Complete work processes	4.1 Conduct final inspection according to workplace procedures and confirm bicycle is ready for use 4.2 Clear work area and dispose of or recycle materials according to workplace procedures 4.3 Complete documentation according to workplace procedures

Foundation Skills

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

SKILL	DESCRIPTION
Learning	Locates required sources of information efficiently.
Numeracy	- Uses measuring equipment, including metric and imperial units of measurement - Matches component codes, serial numbers and specifications.
Oral communication	Asks questions to clarify instructions and requirements.
Reading	Interprets mechanical brake component technical information and manufacturer specifications.

SKILL	DESCRIPTION
Problem solving	Identifies faults, quality issues and potential problems associated with bicycle mechanical braking systems during service and repair activities.
Technology	Uses specialist bicycle tools and equipment in line with workplace procedures.

Unit Mapping Information

Supersedes and is equivalent to AURBTB001 Service and repair bicycle mechanical braking systems.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1>

Assessment Requirements for AURBTB101 Service and repair bicycle mechanical braking systems

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- service, repair and adjust at least three of the following different types of bicycle mechanical braking systems:
 - cantilever
 - disc brakes
 - internal coaster
 - drum brakes
 - composite material brake pads
 - mechanical linkages and cables
 - integrated brake and gear levers.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of

- methods to locate and interpret information required to service and repair bicycle mechanical braking systems, including:
 - information provided by customer and supervisors
 - manufacturer specifications and procedures or equivalent documentation
- workplace procedures required to service and repair bicycle mechanical braking systems, including:
 - establishing serviceability of tools and equipment
 - documentation procedures
 - housekeeping procedures, including:
 - examination of tools and equipment
 - storage of equipment
 - identification, tagging and isolation of faulty equipment

- disposal of excess materials
 - recycling procedures
- work health and safety (WHS) requirements relating to servicing and repairing bicycle mechanical braking systems, including procedures for:
 - manually handling bicycles and their systems
 - identifying workplace hazards
 - using personal protective equipment (PPE)
 - identifying safe location for testing brakes
- environmental requirements, including procedures for disposing of waste materials
- bicycle braking system terminology
- application, purpose and function of bicycle mechanical braking system principles
- mechanical braking system types, including:
 - cantilever, disc, internal coaster and drum brakes
 - composite material brake pads
 - mechanical linkages and cables
 - integrated brake and gear levers
- types and use of tools and equipment used to service and repair bicycle mechanical braking systems
- servicing and repair options, including:
 - on- and off-site servicing
 - servicing and adjusting mechanical braking system components
 - upgrading braking components
- techniques for servicing and repairing bicycle mechanical braking systems, including:
 - identification of bicycle mechanical brake components, materials and specifications
 - fault identification
 - brake repair and adjustment techniques
 - bicycle measuring techniques
 - mechanical brake testing procedures.

Assessment Conditions

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the bicycle mechanical braking systems that they have serviced and repaired, e.g. repair orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- bicycle workplace or simulated workplace, including location to test bicycle braking system
- workplace instructions detailing job requirements
- PPE required to service and repair bicycle mechanical braking systems
- manufacturer or brake component specifications and technical information for mechanical braking system
- components and parts to suit different mechanical braking systems
- three different bicycles with mechanical braking systems specified in the performance evidence and requiring repair and servicing
- tools and equipment appropriate for servicing and repairing bicycle mechanical braking systems.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

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