



Australian Government

AURBTB003 Repair and overhaul bicycle hydraulic braking systems

Release: 1

AURBTB003 Repair and overhaul bicycle hydraulic braking systems

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to repair and overhaul bicycle hydraulic braking systems. It involves preparing for the work, selecting and using specialist tools and equipment, inspecting, repairing and testing the bicycle braking system, and completing workplace processes and documentation.

It 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.

Competency Field

Bicycle

Unit Sector

Technical - Brakes

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	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 repair bicycle hydraulic braking system	1.1 Job requirements are determined from workplace instructions 1.2 Manufacturer specifications, workplace procedures and other relevant technical information are accessed and interpreted 1.3 Condition of bicycle hydraulic braking system is inspected using visual inspection methods and by comparing measurements

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	against manufacturer specifications 1.4 Repair options and techniques are identified and confirmed 1.5 Hazards associated with the work are identified and risks are managed 1.6 Tools and equipment, including personal protective equipment (PPE), are selected and checked for serviceability 1.7 Work area is prepared and repair process, including post-repair testing, is planned to avoid damage to bicycle, minimise waste and use time efficiently
2. Carry out repair and overhaul of braking system	2.1 Hydraulic braking system is repaired according to repair plan and <i>safety and environmental requirements</i> 2.2 Required replacement parts are checked and fitted according to manufacturer specifications 2.3 Hydraulic braking system specifications are checked according to workplace procedures 2.4 Operation of repaired braking system is tested through its full range and adjustments made as required 2.5 Results and quality issues are reported to authorised personnel as required
3. Complete work processes	3.1 Final inspection is made to ensure work meets workplace expectations and bicycle is presented ready for use 3.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected and stored 3.3 Tools and equipment are checked, reported if faulty, and stored according to workplace procedures 3.4 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 appropriate sources of information efficiently.

Skills	Description
Writing skills to:	legibly and accurately fill out workplace documentation, including repair reports.
Oral communication skills to:	ask questions to clarify instructions and requirements.
Numeracy skills to:	identify and calculate bicycle hydraulic brake setting adjustments from specifications.
Problem solving skills to:	identify faults, quality issues and potential problems associated with bicycle hydraulic braking system during repair activities.
Technology skills to:	use specialist bicycle tools and equipment in line with workplace procedures.

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.

<i>Hydraulic braking system</i> must include:	- master cylinder - hydraulic lines and linkages - hydraulic fluid - cantilever, disc and drum brakes - integrated brake and gear levers.
<i>Safety and environmental requirements</i> must include:	- work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for: - manually handling bicycles and their systems - identifying workplace hazards - using tools and equipment, including PPE - identifying safe location for testing brakes - environmental requirements, including procedures for disposing of waste materials.

Unit Mapping Information

Equivalent to AURBTB3003 Repair bicycle hydraulic braking systems

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for AURBTB003 Repair and overhaul bicycle hydraulic braking systems

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Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standard defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- repair and overhaul three different bicycle hydraulic braking systems
- during work on the above three bicycles, service the following:
 - master cylinder
 - hydraulic lines and linkages
 - cantilever, disc and drum brakes
 - integrated brake and gear levers.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to repairing and overhauling bicycle hydraulic braking systems, including procedures for:
 - manually handling bicycles and their systems
 - identifying workplace hazards
 - using tools and equipment, including personal protective equipment (PPE)
 - identifying safe location for testing brakes
- environmental requirements, including procedures for disposing of waste materials
- purpose, classification and application of bicycle hydraulic braking system principles
- key features of hydraulic braking system components, including:
 - master cylinder
 - hydraulic lines and linkages
 - hydraulic fluid

- cantilever, disc and drum brakes
- integrated brake and gear levers
- types and use of tools and equipment used to repair and overhaul bicycle hydraulic braking systems
- techniques and processes for repairing and overhauling bicycle hydraulic braking systems, including:
 - identification of bicycle hydraulic brake components, materials and specifications
 - fault identification
 - measuring techniques
 - hydraulic brake adjustment techniques
 - hydraulic brake testing procedures
- repair options, including:
 - on- and off-site repair
 - repairing and adjusting hydraulic braking system components
 - upgrading braking components.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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 hydraulic braking systems that they have repaired and overhauled, 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 repair and overhaul bicycle hydraulic braking systems
- manufacturer or brake component specifications and technical information for hydraulic braking system
- three different bicycles with the hydraulic braking system components specified in the performance evidence and requiring repair and overhaul
- tools and equipment appropriate for repairing and overhauling bicycle hydraulic braking systems.

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