



Australian Government

AURBTQ001 Service bicycle drivetrain systems

Release: 1

AURBTQ001 Service bicycle drivetrain systems

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to service bicycle drivetrain systems and their components. It involves preparing for the work, selecting and using specialist tools and equipment, inspecting and testing bicycle drivetrain systems and components according to manufacturer specifications, and completing workplace processes and documentation.

This 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 - Driveline and Final Drive

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 service bicycle drivetrain 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 drivetrain system is inspected for faults and worn or damaged components using visual inspection methods and by comparing measurements against manufacturer

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	specifications 1.4 Service options and techniques are identified and confirmed with customer 1.5 Replacement parts for drivetrain are identified and sourced as required 1.6 Hazards associated with the work are identified and risks are managed 1.7 Tools and equipment, including personal protective equipment (PPE), are selected and checked for serviceability 1.8 Work area is prepared and service sequence planned to avoid damage to bicycle, minimise waste and use time efficiently
2. Carry out service of drivetrain system	2.1 Bicycle drivetrain system is serviced according to work plan, manufacturer specifications, and <i>safety and environmental requirements</i> 2.2 Replacement parts are checked and fitted according to manufacturer specifications 2.3 Operation of serviced drivetrain system is tested and adjusted as required according to job requirements and workplace procedures 2.4 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 procedure

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 service reports.
Oral communication skills to:	ask questions to clarify instructions and requirements.
Numeracy skills to:	- complete measurements to determine bicycle drivetrain system condition and operation - identify and calculate bicycle drivetrain system settings and adjustments from specifications.
Self-management skills to:	select and use appropriate equipment, materials and processes to service bicycle drivetrain systems.
Problem solving skills to:	identify technical and operational faults and defects, quality issues and potential problems associated with bicycle drivetrain systems during service 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>Drivetrain system</i> must include:	- cranks and pedals - chains and chain wheels - cassette, cartridge and internal hub gear systems - manual mechanical, automatic, electro-mechanical and electric gear changers - integrated brake and gear lever systems - fixed and freewheel rear sprockets.
<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 drivetrain systems - identifying workplace hazards - using tools and equipment, including PPE - environmental requirements, including procedures for disposing of waste materials.

Unit Mapping Information

Equivalent to AURBTQ2001 Service bicycle drivetrain 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 AURBTQ001 Service bicycle drivetrain 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:

- service the following bicycle drivetrain systems on three different bicycles:
 - derailleur
 - internal hub gear system
 - integrated brake and gear lever system
 - fixed and freewheel rear sprockets.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to servicing bicycle drivetrain systems, including procedures for:
 - manually handling bicycles and drivetrain systems
 - identifying workplace hazards
 - using tools and equipment, including personal protective equipment (PPE)
- environmental requirements, including procedures for disposing of waste materials
- key bicycle terminology relating to drivetrain systems
- types of bicycle drivetrain systems and their system components, including:
 - cranks and pedals
 - chains and chain wheels
 - cassette, cartridge and internal hub gear systems
 - manual mechanical, automatic, electro-mechanical and electric gear changers
 - integrated brake and gear lever systems
 - fixed and freewheel rear sprockets

- types and use of tools and equipment used to service bicycle drivetrain systems
- techniques and processes for servicing bicycle drivetrain systems, including:
 - identification of bicycle drivetrain components, materials and specifications
 - use of drivetrain lubricants
 - fault identification
 - drivetrain system measuring techniques
 - drivetrain adjustment techniques
 - drivetrain testing procedures.

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 drivetrain systems that they have serviced, e.g. service 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 drivetrain system
- workplace instructions detailing job requirements
- PPE required to service bicycle drivetrain systems
- drivetrain component specifications
- drivetrain components specified in the performance evidence
- three different bicycles requiring drivetrain servicing and testing
- tools and equipment appropriate for servicing bicycle drivetrain systems.

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