



Australian Government

AURBTJ004 Repair and overhaul bicycle wheels and hubs

Release: 1

AURBTJ004 Repair and overhaul bicycle wheels and hubs

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to repair and overhaul bicycle wheels with different hub, spoke and rim configurations. It involves preparing for the work, selecting and using specialist tools and equipment, repairing and testing the bicycle wheels and hubs to manufacturer specifications, 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 - Wheels and Tyres

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 and overhaul bicycle wheels and hubs	1.1 Job requirements are determined from workplace instructions, including wheel and hub repair methods and materials 1.2 Manufacturer specifications, workplace procedures and other relevant technical information are accessed and interpreted 1.3 <i>Bicycle wheels and hubs</i> are inspected for worn or damaged components

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.
	1.4 Repair options and techniques are identified and confirmed, and hazards associated with the work are identified 1.5 Replacement wheel and hub parts and components are sourced 1.6 Tools and equipment, including personal protective equipment (PPE), are selected and checked for serviceability 1.7 Work is planned to avoid damage to bicycle, minimise waste and use time efficiently 1.8 Work area and wheel and hub are prepared for repair or overhaul
2. Carry out repair and overhaul of bicycle wheels and hubs	2.1 Bicycle wheels are removed according to manufacturer specifications and <i>safety and environmental requirements</i> 2.2 Rims are checked and adjusted as required 2.3 Spokes are checked, replaced if broken, adjusted and tensioned 2.4 Wheel truing equipment and techniques are used to check for correct operation according to manufacturer specifications and adjusted, as required, prior to refitting wheel 2.5 Wheels are refitted and wheel hubs are regreased according to workplace procedures 2.6 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, including with the customer.
Numeracy skills to:	- interpret wheel and hub specifications - calculate quantities of repair materials and components.
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>Bicycle wheels and hubs</i> must include:	- spoke, disc and tri-spoke wheels - conventional, clincher, tubular, aero, deep dished and composite material wheel rims - quick release, allen head and nut wheel fasteners - disc, drum and coaster and internal foot brake hubs.
<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 bicycle wheels - identifying workplace hazards - using tools and equipment, including PPE - environmental requirements, including procedures for disposing of waste materials.

Unit Mapping Information

Equivalent to AURBTJ3004 Repair and overhaul bicycle wheels and hubs

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 AURBTJ004 Repair and overhaul bicycle wheels and hubs

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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 wheels and hubs according to manufacturer specifications, including:
 - one spoke wheel
 - one disc wheel.

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 wheels and hubs, including procedures for:
 - manually handling bicycle wheels
 - identifying workplace hazards
 - using tools and equipment, including personal protective equipment (PPE)
- environmental requirements, including procedures for disposing of waste materials
- key bicycle wheel and hub terminology
- wheel and hub mechanical principles
- types of bicycle wheel and hub systems and components
- wheel and hub components specified in the range of conditions and their specifications
- types and use of tools and equipment used to repair and overhaul bicycle wheels and hubs
- techniques and processes for repairing and overhauling bicycle wheels and hubs, including:
 - types of wear or faults in bicycle wheel and hubs
 - measuring techniques

- torque measurement and adjustment of wheels
- 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 wheels and hubs 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
- workplace instructions detailing job requirements
- wheel and hub technical and component specifications
- PPE required to repair and overhaul bicycle wheels and hubs
- three different bicycles requiring wheel and hub system repair and overhaul as specified in the performance evidence
- tools and equipment appropriate for repairing and overhauling bicycle wheels and hubs.

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