



Australian Government

AURBTA006 Assemble components for custom bicycles

Release: 1

AURBTA006 Assemble components for custom bicycles

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to select and assemble bicycle components in order to custom bicycles to meet client cycling requirements. It involves preparing for the work, selecting and using specialist tools and equipment, identifying and selecting bicycle frames, wheels and components, assembling and testing the bicycle, 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

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. Gather customer information	1.1 Job requirements are determined from workplace instructions 1.2 Customer requirements and riding style are assessed through observation, discussion and taking measurements 1.3 Sizing cycle or other methods are used to determine optimum bicycle set-up

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 Hazards associated with the work are identified and risks are managed
2. Select bicycle frame	2.1 Suitable frame types are identified that match customer requirements 2.2 Frame specifications, design and availability are researched using various sources of information 2.3 Bicycle frame is selected to match customer <i>physical attributes</i> and intended use 2.4 Frame measurements are calculated, and frame material and build method are selected
3. Select wheels	3.1 Wheel size that suits frame measurements is determined 3.2 Rims, spokes and hub types that suit customer needs are identified 3.3 Features and benefits of different wheel designs and components are discussed and determined with the customer 3.4 Stock wheels and components are selected or custom wheel design is chosen and specifications are calculated
4. Select components	4.1 Options for components are researched and discussed with customer 4.2 Components are selected that meet customer design and price preferences
5. Confirm bicycle details	5.1 Custom paint requirements are specified, as required 5.2 Components and parts are listed and details of availability are confirmed 5.3 Costs are calculated and documented, and customer approval is obtained for work
6. Assemble components	6.1 Work area is prepared and work is planned to minimise waste and use time efficiently 6.2 Customer approved components are prepared for assembly 6.3 Tools and equipment, including personal protective equipment (PPE), are selected and checked for serviceability 6.4 Bicycle and selected components are assembled and lubricated and fastener tensions adjusted according to manufacturer specifications, workplace procedures and <i>safety and environmental requirements</i> , and without causing damage to components or systems 6.5 Assembled bicycle is inspected and tested for correct tension of components and operation, and adjusted as required according to workplace procedures
7. Complete work processes	7.1 Final inspection is made to ensure work meets workplace expectations and custom bicycle is presented ready for use 7.2 Work area is cleaned, waste and non-recyclable materials are

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	disposed of, and recyclable material is collected and stored 7.3 Tools and equipment are checked, reported if faulty, and stored according to workplace procedures 7.4 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.
Writing skills to:	legibly and accurately fill out workplace documentation, including assembly checklists.
Oral communication skills to:	ask questions to clarify job, customer and supplier requirements.
Numeracy skills to:	- match component codes, serial numbers and specifications - use bicycle sizing measuring equipment - measure bicycle components and use basic mathematical operations, including addition, subtraction, multiplication and division, to calculate: - frame size - component specifications and ratios - adjustments and settings.
Planning and organising skills to:	plan own work requirements and prioritise actions to achieve required outcomes and ensure tasks are completed within workplace timeframes.
Self-management skills to:	use appropriate methods and processes to select bicycle components that meet customer requirements for a customised bicycle.
Technology skills to:	use specialist bicycle fitting and adjusting 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>Customer requirements</i> must include:	• bicycle features • frame material • components: • wheels, rims, spokes and hubs • handlebars and headset • forks and suspension • saddle and seat post • cassette, chain rim, chain and crank • pedals • front and rear derailleur • bottom bracket • brake, brake lever and brake shift • racks, lights and other accessories.
<i>Measurements</i> must include:	• rider height • rider body shape • rider length of arms and legs.
<i>Bicycle set-up</i> must include:	• fork trail, rake and offset • head tube length and angle • wheelbase • bottom bracket drop • seat tube length and angle • top tube length • setback • stem length • saddle height.
<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 • environmental requirements, including procedures for trapping, storing and disposing of waste grease and oils.

Unit Mapping Information

Equivalent to AURBTA3006 Identify and select components for custom bicycles

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 AURBTA006 Assemble components for custom bicycles

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Release 1	New unit of competency.

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:

- assemble, adjust and test one custom bicycle to meet customer requirements.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to assembling custom bicycles, including procedures for manually handling bicycles
- environmental requirements, including procedures for trapping, storing and disposing of waste grease and oils
- types of bicycles and range of components and accessories
- key bicycle terminology
- biomechanical principles of cycling
- techniques for measuring and/or selecting custom bicycle components, including:
 - procedures for using bicycle sizing measuring equipment
 - design requirements of bicycle frames and wheels
 - purpose and relationships of bicycle frames, wheels, suspension, drivetrain and steering systems
 - principles of bicycle safety
 - physical attributes to consider when selecting a bicycle frame, including:
 - height
 - body shape and weight distribution
 - length of arms and legs

- fitness, injuries and style of cycling
- key features and materials used in bicycle frames, wheels and components
- bicycle component specifications
- bicycle accessories and fitting requirements
- techniques for assembling, adjusting and testing custom bicycles, including:
 - custom build procedures
 - testing and adjustment methods
 - types and use of bicycle assembly tools and equipment
 - greasing and lubrication procedures
 - fitting and adjustment procedures for the accessories and components specified in the range of conditions as essential to bicycle set-up
 - post-assembly safety checks
 - bicycle and component adjustment 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 components for custom bicycles that they have selected and assembled, e.g. build 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
- personal protective equipment (PPE) required to assemble a custom bicycle
- bicycle and component manufacturer specifications
- customer requiring a custom bicycle
- a bicycle frame and components for assembly
- bicycle sizing measuring equipment
- tools and equipment appropriate for selecting components and assembling a custom bicycle.

Links

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