



Australian Government

AURBTA106 Assemble components for custom bicycles

Release: 1

AURBTA106 Assemble components for custom bicycles

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 select and assemble bicycle components in order to custom bicycles to meet client cycling requirements. The unit 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.

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

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. Gather customer information	1.1 Determine job requirements from workplace instructions 1.2 Assess customer requirements and riding style through observation, discussion and taking measurements 1.3 Use sizing cycle or other methods to determine optimum bicycle set-up 1.4 Identify hazards associated with the work and manage risks
2. Select bicycle frame	2.1 Identify suitable frame types that match customer requirements 2.2 Research frame specifications, design and availability using various sources of information 2.3 Select bicycle frame to match customer physical attributes

ELEMENTS	PERFORMANCE CRITERIA
	and intended use 2.4 Calculate frame measurements, and select frame material and build method
3. Select wheels	3.1 Determine wheel size that suits frame measurements 3.2 Identify rims, spokes and hub types that suit customer needs 3.3 Discuss and determine features and benefits of different wheel designs and components with the customer 3.4 Select stock wheels and components or choose custom wheel design and calculate specifications
4. Select components	4.1 Research options for components and discuss with customer 4.2 Select components that meet customer design and price preferences
5. Confirm bicycle details	5.1 Specify custom paint requirements, as required 5.2 List components and parts and confirm details of availability 5.3 Calculate and document costs, and obtain customer approval for work
6. Assemble components	6.1 Prepare work area and plan work to minimise waste and use time efficiently 6.2 Prepare customer approved components for assembly 6.3 Select and check tools and equipment for serviceability 6.4 Assemble and lubricate bicycle and selected components and adjust fastener tensions according to manufacturer specifications, workplace procedures and safety and environmental requirements, and without causing damage to components or systems 6.5 Inspect and test assembled bicycle for required tension of components and operation, and adjust as required according to workplace procedures
7. Complete work processes	7.1 Conduct final inspection according to workplace procedures and confirm bicycle is ready for use 7.2 Clear work area and dispose of or recycle materials according to workplace procedures 7.3 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	- Matches component codes, serial numbers and specifications - Uses bicycle sizing measuring equipment - Measures bicycle components and uses basic mathematical operations, including addition, subtraction, multiplication and division, to calculate: - frame size - component specifications and ratios - adjustments and settings.
Oral communication	Asks questions to clarify job, customer and supplier requirements.
Planning and organising	- Plans own work requirements - Prioritises actions to achieve required outcomes - Ensures tasks are completed within workplace timeframes.
Self-management	Uses required methods and processes to select bicycle components that meet customer requirements for a customised bicycle.
Technology	Uses specialist bicycle fitting and adjusting tools and equipment in line with workplace procedures.

Unit Mapping Information

Supersedes and is equivalent to AURBTA006 Assemble components for custom bicycles.

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 AURBTA106 Assemble components for custom bicycles

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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:

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

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 assemble components for custom bicycles, including:
 - information provided by customer and supervisors
 - manufacturer specifications and procedures or equivalent documentation
- workplace procedures required to assemble components for custom bicycles, 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 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, including:
 - 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
- key bicycle terminology
- biomechanical principles of cycling
- customer requirements relating to assembling components for custom bicycles, including:
 - bicycle features
 - frame materials
- techniques for measuring and/or selecting custom bicycle components, including:
 - selecting and checking personal protective equipment (PPE)
 - 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 essential to bicycle set-up, including:
 - 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
- post-assembly safety checks
- bicycle and component adjustment 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 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.

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

Links

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