



**Australian Government**

# **AURBCA2002 Select and adjust bicycle to fit rider**

**Release 1**

## AURBCA2002 Select and adjust bicycle to fit rider

### Modification History

Release	Comment
Release 1	Replaces AURB254401A Select and adjust bicycle to fit rider Unit code updated to meet policy requirements. Reference to OHS legislation replaced with new WHS legislation Licensing statement updated in unit descriptor

### Unit Descriptor

Unit descriptor	This unit of competency describes the skills and knowledge required to select and/or adjust a bicycle to best fit the physical abilities and cycling requirements of the rider.  Licensing, legislative, regulatory or certification requirements may apply to this unit in some jurisdictions. Users are advised to check with the relevant regulatory authority.
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### Application of the Unit

Application of the unit	This unit applies to individuals who advise on the selection and adjustment of a bicycle and/or bicycle components to meet the needs of the rider.  It applies to individuals working in a bicycle retail, service and repair environment.
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### Licensing/Regulatory Information

Not applicable.

### Pre-Requisites

Not applicable.

## Employability Skills Information

<b>Employability skills</b>	This unit contains employability skills.
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## Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.
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## Elements and Performance Criteria

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
1. Gather information about the rider	1.1. Check and confirm customer requirements and cycling preferences 1.2. Assess physical attributes of customer by discussion, observation and measurements, if appropriate 1.3. Identify suitable bicycle types and configurations to match customer requirements 1.4. Discuss features and benefits of selected bicycles with customer
2. Adjust bicycle to fit the rider	2.1. Check that frame size matches rider's physical attributes 2.2. Check and adjust seat setting according to rider and manufacturer specifications 2.3. Check and adjust handlebars and stem settings according to rider and manufacturer specifications 2.4. Check and adjust clipless pedal settings to match rider's needs 2.5. Allow customer to test ride bicycle for riding comfort and efficiency 2.6. Make final adjustments as required

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

#### Required skills

Required skills include:

- technical skills to the level required to safely use tooling and equipment to adjust bicycle components
- communication skills to the level required to confirm work requirements and specifications, to communicate effectively regarding work requirements with supervisor, other workers and customers, to report work outcomes and problems, and to relate to people from a range of social, cultural and ethnic backgrounds and of varying physical and mental abilities
- literacy skills to the level required to understand information related to bicycles, including common industry terminology, to prepare reports and interpret technical information and specifications
- numeracy skills to the level required to correctly complete tests and measurements
- problem-solving skills to the level required to identify non-optimal bicycle fit and make required adjustments
- team skills to the level required to work effectively and cooperatively with others to optimise workflow and productivity

#### Required knowledge

Required knowledge includes:

- bicycle terminology
- types and classifications of bicycles
- manufacturer and/or component supplier specifications
- biomechanical principles of cycling
- testing procedures and adjustment methods
- tools and equipment used in bicycle adjustment
- Australian standards applicable to bicycles
- applicable commonwealth, state or territory legislation, regulations, standards and codes of practice, including workplace health and safety (WHS), personal safety and environment, relevant to adjusting bicycles
- organisational policies and procedures, including quality requirements, reporting and recording procedures, and work organisation and planning processes, related to adjusting bicycles

## Evidence Guide

<b>EVIDENCE GUIDE</b>	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<b>Overview of assessment</b>	
<b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b>	<p>Assessors must be satisfied that the candidate can competently and consistently:</p> <ul style="list-style-type: none"> <li>• observe safety procedures and requirements</li> <li>• communicate effectively with customer to determine requirements</li> <li>• recommend bicycle types to suit customer requirements</li> <li>• identify and assess variables that affect cycling comfort, stability, efficiency and aerodynamics</li> <li>• complete adjustment of components to optimise cycling comfort, stability, efficiency and aerodynamics.</li> </ul>
<b>Context of, and specific resources for assessment</b>	<ul style="list-style-type: none"> <li>• The application of competency is to be assessed in the workplace or a simulated environment that reflects as far as possible the actual working environment.</li> <li>• Assessment is to occur using standard and authorised work practices, safety requirements and environmental constraints.</li> <li>• Assessment is to comply with relevant regulatory requirements, including specified Australian standards.</li> <li>• Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</li> <li>• The following resources should be made available: <ul style="list-style-type: none"> <li>• a range of bicycle models and components</li> <li>• equipment and tools appropriate to adjusting bicycles</li> <li>• technical specifications and standards</li> <li>• workplace documentation.</li> </ul> </li> </ul>
<b>Method of assessment</b>	<ul style="list-style-type: none"> <li>• Assessment must satisfy the endorsed Assessment Guidelines of this Training Package.</li> <li>• Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of Required Skills and Knowledge.</li> <li>• Assessment methods must be by direct observation of tasks and include questioning on Required Skills and Knowledge to ensure its correct interpretation and application.</li> <li>• Assessment may be applied under project-related conditions</li> </ul>

<b>EVIDENCE GUIDE</b>	
	<p>(real or simulated) and require evidence of process.</p> <ul style="list-style-type: none"><li>• Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances.</li><li>• Competence in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role.</li></ul>
<b>Guidance information for assessment</b>	Assessment processes and techniques must be culturally sensitive and appropriate to the language and literacy capacity of the candidate and the work being performed.

## Range Statement

### RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<b>Bicycles</b>	<p>Bicycles may include:</p> <ul style="list-style-type: none"> <li>• those with and without gears, and with lever operated brakes</li> <li>• children and adult models of different heights</li> <li>• mountain, road, hybrid, BMX, track and trials models</li> </ul>
<b>Best fit considerations</b>	<p>Best fit considerations may include:</p> <ul style="list-style-type: none"> <li>• comfort</li> <li>• stability</li> <li>• efficiency</li> <li>• aerodynamics</li> <li>• fitness for purpose</li> </ul>
<b>Rider measurements</b>	<p>Rider measurements to be considered may include:</p> <ul style="list-style-type: none"> <li>• height</li> <li>• body shape</li> <li>• length of arms and legs</li> <li>• fitness</li> </ul>
<b>Bicycle adjustments</b>	<p>Bicycle adjustments for best fit may include:</p> <ul style="list-style-type: none"> <li>• frame size</li> <li>• crank length</li> <li>• distance from crank centre or bottom bracket to saddle</li> <li>• saddle angle</li> <li>• seat tube angle and saddle offset</li> <li>• distance from saddle to handlebar</li> <li>• relative height of saddle and handlebar</li> <li>• handlebar width, angle and lever reach</li> <li>• handlebar drop on road style handlebars</li> <li>• clipless pedal tension, and position of pedal and shoe</li> </ul>
<b>Tooling and equipment</b>	<p>Tooling and equipment may include:</p> <ul style="list-style-type: none"> <li>• hand tooling</li> <li>• floor stand and workbench</li> </ul>
<b>Testing</b>	<p>Testing is to confirm:</p> <ul style="list-style-type: none"> <li>• safety, comfort and efficiency</li> </ul>

<b>RANGE STATEMENT</b>	
	<ul style="list-style-type: none"> <li>• stable handling, turning and steering</li> <li>• no failure in parts of the bicycle</li> </ul>
<b>Information/documents</b>	<p>Information/documents may include:</p> <ul style="list-style-type: none"> <li>• verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, memos, material safety data sheets (MSDS), diagrams or sketches</li> <li>• safe work procedures related to adjusting bicycles</li> <li>• regulatory/legislative requirements pertaining to bicycle safety</li> <li>• engineer's design specifications and instructions</li> <li>• organisation work specifications and requirements</li> <li>• instructions issued by authorised enterprise or external persons</li> <li>• Australian standards</li> </ul>
<b>WHS requirements</b>	<p>WHS requirements are to be in accordance with applicable commonwealth, state or territory legislation and regulations, and organisational safety policies and procedures, and may include:</p> <ul style="list-style-type: none"> <li>• personal protective equipment and clothing</li> <li>• safety equipment</li> <li>• first aid equipment</li> <li>• hazard and risk control</li> <li>• elimination of hazardous materials and substances</li> <li>• manual handling, including shifting, lifting and carrying</li> <li>• emergency procedures</li> </ul>
<b>Legislative requirements</b>	<p>Legislative requirements are to be in accordance with applicable commonwealth, state or territory legislation, regulations, certification requirements and codes of practice, and may include:</p> <ul style="list-style-type: none"> <li>• award and enterprise agreements</li> <li>• industrial relations</li> <li>• Australian standards</li> <li>• Australian Design Rules</li> <li>• confidentiality and privacy</li> <li>• WHS</li> <li>• the environment</li> <li>• equal opportunity</li> <li>• anti-discrimination</li> <li>• relevant industry codes of practice</li> <li>• duty of care</li> </ul>
<b>Environmental requirements</b>	<p>Environmental requirements may include:</p> <ul style="list-style-type: none"> <li>• waste management</li> </ul>



<b>RANGE STATEMENT</b>	
	<ul style="list-style-type: none"> <li>• noise</li> <li>• dust</li> <li>• clean-up management</li> </ul>
<b>Quality requirements</b>	Quality requirements may include: <ul style="list-style-type: none"> <li>• regulations, including Australian standards</li> <li>• internal organisational quality policies and procedures</li> <li>• enterprise operations and procedures</li> </ul>
<b>Organisational policies and procedures</b>	Organisational policies and procedures may include: <ul style="list-style-type: none"> <li>• quality policies and procedures, including Australian standards</li> <li>• WHS, sustainability, environment, equal opportunity and anti-discrimination</li> <li>• manufacturer specifications and industry codes of practice</li> <li>• safe work procedures</li> <li>• reporting and recording procedures</li> </ul>

### Unit Sector(s)

<b>Unit sector</b>	Bicycle
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### Co-requisite units

Not applicable.

### Competency field

<b>Competency field</b>	Sales and Marketing
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