



Australian Government

AURBTY3001 Service and repair bicycle frames

Release 1

AURBTY3001 Service and repair bicycle frames

Modification History

Release	Comment
Release 1	Replaces AURB328267A Service and repair bicycle frames Unit code updated to meet policy requirements Reference to OHS legislation replaced with new WHS legislation

Unit Descriptor

Unit descriptor	This unit of competency describes the skills and knowledge required to inspect, plan and safely service, repair and test bicycle frames. It requires the ability to interpret specifications, assess the condition of the frame, and to select and use tooling and equipment. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.
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Application of the Unit

Application of the unit	This unit applies to individuals who undertake service and repair of a range of bicycle frames in a bicycle servicing and repair environment. The repair of carbon fibre bicycle frames is covered by AURBTY4003 Assess carbon fibre frames for repair.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	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

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for work	1.1. Confirm customer requirements and intended use of the unit in accordance with workplace procedures 1.2. Identify and check bicycle frame service and repair requirements and specifications 1.3. Check tooling and equipment for availability, conformity with specifications and safe condition 1.4. Prepare work area and set up equipment and materials
2. Inspect bicycle frame	2.1. Inspect bicycle frame for faults, wear or damage using visual, aural and tactile inspections and measurements 2.2. Compare conditions found with bicycle frame specifications and customer requirements 2.3. Identify service and repair options for bicycle frame 2.4. Document and cost service and repair items for customer approval in accordance with workplace procedures 2.5. Obtain customer approval for work to be undertaken
3. Prepare for service and repair of bicycle frame	3.1. Plan service and repair sequence and determine availability of tooling and equipment 3.2. Ensure service and repair sequence plan includes post-service testing and checking process 3.3. Prepare list of parts and materials and determine availability 3.4. Identify need for additional persons to assist in repair process and make arrangements 3.5. Select and check tooling and equipment to meet job requirements
4. Service and repair bicycle frame	4.1. Perform service and repair operations for bicycle frame according to plan 4.2. Use personal safety equipment and take precautions to protect others in the workplace 4.3. Use and maintain tooling and equipment in accordance with workplace health and safety (WHS) requirements 4.4. Check customer requirements and bicycle frame specifications in accordance with workplace procedures
5. Test bicycle frame	5.1. Operate bicycle through its full range, noting test results, including non-conformity 5.2. Check bicycle frame, complete adjustments and prepare unit for delivery 5.3. Clean and store portable tooling and equipment in approved designated areas 5.4. Complete workplace records, customer file and warranty

ELEMENT	PERFORMANCE CRITERIA
	information as required by enterprise

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 use workplace technology related to servicing, repairing and testing of bicycle frames
- 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 work orders, including common industry terminology, plans and safety procedures, prepare reports, complete records and interpret technical information and specifications
- numeracy skills to the level required to correctly count and measure to determine bicycle frame condition and operation
- problem-solving skills to the level required to plan and organise activities and establish diagnostic processes which identify methods of servicing, repairing and testing bicycle frames
- team skills to the level required to work effectively and cooperatively with others to optimise workflow and productivity

Required knowledge

Required knowledge includes:

- purpose and requirements of bicycle frame systems and their relationship to braking, wheels, drivetrain and steering system
- classification of bicycle frames and identification of system components
- material used in bicycle frames
- application of frame design principles
- frame service, repair and testing procedures and techniques
- selection, checking and use of tooling and equipment
- manufacturer and/or component supplier specifications
- applicable commonwealth, state or territory legislation, regulations, standards and codes of practice, including WHS, personal safety and environment, relevant to servicing and repairing bicycle frames
- organisational policies and procedures, including quality requirements, reporting and recording procedures, and work organisation and planning processes related to servicing and repairing bicycle frames

Evidence Guide

EVIDENCE GUIDE

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.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Assessors must be satisfied that the candidate can competently and consistently:

- observe safety procedures and requirements
- communicate effectively with others involved in or affected by the work
- select methods and techniques appropriate to the circumstances
- complete preparatory activity in a systematic manner
- inspect a range of bicycle frames and components and accurately identify required service and repair options
- service and repair a range of bicycle frames to manufacturer/component supplier specifications
- test bicycle frames to manufacturer/component supplier specifications.

Context of, and specific resources for assessment

- 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.
- Assessment is to occur using standard and authorised work practices, safety requirements and environmental constraints.
- Assessment is to comply with relevant regulatory requirements, including specified Australian standards.
- Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.
- The following resources should be made available:
 - a range of bicycle frame configurations
 - material relevant to servicing and repairing bicycle frames
 - equipment and hand and power tooling appropriate to servicing and repairing bicycle frames
 - specifications and work instructions.

Method of assessment

- Assessment must satisfy the endorsed Assessment Guidelines of this Training Package.
- 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.

EVIDENCE GUIDE

	• Assessment methods must be by direct observation of tasks and include questioning on Required Skills and Knowledge to ensure its correct interpretation and application. • Assessment may be applied under project-related conditions (real or simulated) and require evidence of process. • 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. • Competence in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role.
Guidance information for assessment	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.

Bicycle frames

Bicycle frames may include:

- all-terrain, touring, racing, recumbent and BMX bicycles
- seat pillars and fasteners
- bottom brackets, cartridge, cup, loose and caged bearings
- left and right hand thread types
- composite material
- painted, anodised, natural state and polished surface finishes

Servicing and repair methods

Servicing and repair methods are to include:

- on- and off-site servicing
- repair, replacement and refinishing of frame components
- welding, brazing and bonding processes
- communicating with customers
- documenting and reporting on service

Tooling and equipment

Tooling and equipment may include:

- specific service and repair and general workshop equipment and tooling
- welding, brazing and bonding equipment and material
- floor stands, workbench and air tooling

Materials

Materials may include:

- spare parts
- welding consumables
- cleaning materials

Information/documents

Information/documents may include:

- verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, memos, material safety data sheets (MSDS), diagrams or sketches
- safe work procedures related to bicycle frames
- regulatory/legislative requirements pertaining to bicycle safety
- engineer's design specifications and instructions
- organisation work specifications and requirements
- instructions issued by authorised enterprise or external persons
- Australian standards

RANGE STATEMENT**WHS requirements**

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:

- personal protective equipment and clothing
- safety equipment
- first aid equipment
- hazard and risk control
- elimination of hazardous materials and substances
- manual handling, including shifting, lifting and carrying
- emergency procedures

Legislative requirements

Legislative requirements are to be in accordance with applicable commonwealth, state or territory legislation, regulations, certification requirements and codes of practice, and may include:

- award and enterprise agreements
- industrial relations
- Australian standards
- Australian Design Rules
- confidentiality and privacy
- WHS
- the environment
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care

Environmental requirements

Environmental requirements may include:

- waste management
- noise
- dust
- clean-up management

Quality requirements

Quality requirements may include:

- regulations, including Australian standards
- internal organisational quality policies and procedures
- enterprise operations and procedures

Organisational policies and procedures

Organisational policies and procedures may include:

- quality policies and procedures, including Australian standards
- WHS, sustainability, environment, equal opportunity and anti-discrimination
- manufacturer specifications and industry codes of practice

RANGE STATEMENT

	• safe work procedures • reporting and recording procedures
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Unit Sector(s)

Unit sector	Bicycle
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Co-requisite units

Not applicable.

Competency field

Competency field	Technical - Chassis and Frame
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