Australian Government

AURBTR001 Service electric power-assisted bicycles

Release: 1

AURBTR001 Service electric power-assisted bicycles

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to service electric power-assisted bicycle systems and components. It involves preparing for the work, selecting and using specialist tools and equipment, inspecting the bicycle condition, interpreting manufacturer specifications, performing routine maintenance and testing on electric bicycle components, and completing workplace processes and documentation.

It applies to those working in the bicycle retail, service and repair industry. Electric power-assisted bicycles are throttle and pedal assist sensor (PAS) bicycles with 250 watts rated power at the wheel.

Licensing, legislative, regulatory or certification requirements may apply to this unit in some jurisdictions. Users are advised to check with the relevant regulatory authority.

Competency Field

Bicycle

Unit Sector

Technical - Electrical and Electronic

Elements and Performance Criteria

Elements Elements describe the essential outcomes.	**Performance Criteria** 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 service electric power-assisted bicycle	1.1 Job requirements are determined from workplace instructions 1.2 Manufacturer specifications and workplace procedures are accessed and interpreted

Elements Elements describe the essential outcomes.	**Performance Criteria** 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.
	1.3 Tools and equipment, including personal protective equipment (PPE), are selected and checked for serviceability 1.4 Hazards associated with the work are identified and risks are managed 1.5 Work area is prepared and service sequence planned to avoid damage to bicycle, minimise waste and use time efficiently
2. Carry out service of bicycle	2.1 Condition of bicycle is inspected for faults and worn, non-serviceable or damaged parts according to workplace procedures 2.2 ***Bicycle components*** needing repair, replacement or maintenance are identified 2.3 Service options and techniques are identified and confirmed 2.4 Routine ***servicing and maintenance*** of bicycle are carried out according to service plan and ***safety and environmental requirements*** 2.5 Testing and operation checks are carried out on serviced bicycle according to manufacturer specifications, and adjustments are made as required 2.6 Results and quality issues are reported to authorised personnel as required
3. Complete work processes	3.1 Bicycle is cleaned, 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 service reports.
Oral communication skills to:	• ask questions to clarify instructions and requirements.
Numeracy skills to:	• complete measurements to test electric power-assisted bicycle against manufacturer specifications • identify and calculate electric power-assisted bicycle settings and adjustments.
Problem solving skills to:	• identify technical and operational faults and defects, quality issues and potential problems associated with electric power-assisted bicycles.
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.

Bicycle components must include:	• hub motor • motor connectors and plugs • electric controllers • battery.
Servicing and maintenance must include:	• battery testing and charging • checking operation of controller • checking wiring • checking connectors at motor plug • testing brake cut-outs, throttle and PAS sensor.

Safety and environmental requirements must include:	• work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for:
	  • manually handling bicycles
	  • identifying workplace hazards
	  • using tools and equipment, including PPE
	• environmental requirements, including procedures for disposing of waste materials.

Unit Mapping Information

Equivalent to AURBTR3001 Service electric power assist bicycles

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1