

Title	Repair bicycle components		
Level	4	Credits	14

Purpose	People credited with this unit standard are able to: identify and repair faults in bicycle components; and test repaired bicycle components in accordance with organisational procedures.
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Classification	Retail, Distribution, and Sales > Bicycle Sales and Servicing
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Available grade	Achieved
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Guidance Information

- 1 It is recommended people hold credits for Unit 20182, *Use equipment in a bicycle workshop*, and Unit 20185, *Identify and carry out repairs needed in bicycle components*, before being assessed against this unit standard.
- 2 All tasks are to be carried out in accordance with organisational procedures, the organisation being the enterprise carrying out the work.
- 3 Performance of the outcomes of this unit standard must comply with the following standards, available through www.standards.govt.nz:
 Australian/New Zealand Standards
 - AS/NZS 1927: 2010 *Pedal bicycles – Safety requirements*;
 New Zealand Standards
 - NZS 5441.1:1987 *Lighting and retroreflectors for pedal cycles – Specification for lamp units and retroreflectors suitable for fitting to pedal cycles*;
 - NZS 5441.2:1987 *Lighting and retroreflectors for pedal cycles – Code of practice for the fitting of lamp units and retroreflectors to pedal cycles*.
- 4 *Reference texts* may include but are not limited to – Barnett, John. *Barnett's Manual DX*. Current edition. Colorado Springs, CO: Barnett Bicycle Institute, and those that come with the bicycle.
- 5 Any relevant Acts, regulations, and bylaws must be complied with during assessment against this standard.
- 6 **Definitions**
Organisational procedures referred to in this unit standard may include but are not limited to the applicable procedures found in the following: organisational performance guidelines and standards; manufacturer's procedures and specifications; Government and local body legislation.
Tools and equipment means industry approved tools and equipment that are recognised within the industry as being the most suited to complete a task in a safe, professional and competent manner.

Bicycle components may include but are not limited to –
wheels – hubs, spokes, rims, tyres, tubes;
drive chain – bottom bracket, chain wheel, chain, pedals, cluster;
gears – shifters, cables, derailleurs;
brakes – levers, cables, callipers, pads;
steering – headset, stem, bars, grips;
frames – drop out, forks, suspension, frame parts;
seat – seat, post.

- 7 Assessment evidence must be provided while carrying out commercial jobs in the workplace under normal workplace conditions.

Outcomes and performance criteria

Outcome 1

Identify faults in bicycle components.

Performance criteria

- 1.1 Faults are identified accurately using the correct tools and equipment.
- 1.2 Faults covered by the Consumer Guarantees Act 1993 or warranties are identified and recorded.

Outcome 2

Repair faults in bicycle components.

Range evidence is required for the repair of a hydraulic front suspension fork, the repair of hydraulic disc brake, the building of a multi-speed rear wheel.

Performance criteria

- 2.1 All required repairs are identified for each fault.
- 2.2 Repairs are carried out.
- 2.3 Broken and bent parts are repaired or replaced.
- 2.4 Moving parts are set up.
- 2.5 Tools and equipment used enable repairs to be carried out.
- 2.6 Repairs are completed within quoted or estimated timeframes to meet customer requirements.
- 2.7 Components are repaired so the bicycle meets the requirements of the relevant Australian/New Zealand Standards.
- 2.8 Work documentation is completed.

Outcome 3

Test repaired bicycle components.

Range evidence is required for the repair of a hydraulic front suspension fork, the repair of hydraulic disc brake, the building of a multi-speed rear wheel.

Performance criteria

3.1 Repaired components are tested for safety and efficiency.

Range safety and efficiency includes but is not limited to – stable handling, turning and steering; no failure in parts of the bicycle; no loosening or misalignment of seat, handlebars, controls, reflectors; no loss of components or accessories.

Planned review date	31 December 2026
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	25 February 2004	31 December 2018
Rollover and Revision	2	20 June 2008	31 December 2018
Review	3	8 December 2016	N/A
Revision	4	28 April 2022	N/A

Consent and Moderation Requirements (CMR) reference	0099
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Toi Mai Workforce Development Council qualifications@toimai.nz if you wish to suggest changes to the content of this unit standard.