

Title	Demonstrate knowledge of, test, and overhaul a motorcycle transmission		
Level	3	Credits	5

Purpose	This unit standard is for people in the motorcycle engineering industry. People credited with this unit standard are able to: demonstrate knowledge of motorcycle transmissions; test a motorcycle transmission for faults; and overhaul a motorcycle transmission.
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Classification	Motor Industry > Automotive Transmission Systems
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Available grade	Achieved
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Entry information	
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Critical health and safety prerequisites	Motorcycle driver's licence.
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Explanatory notes

- 1 The following legislation, publication, and their amendments are required to be consulted and followed where applicable:
 - Health and Safety in Employment Act, 1992
 - New Zealand Road Code, Land Transport Safety Authority.
- 2 Reference to *suitable tools and equipment* means industry approved tools and equipment that are recognised within the industry as being the most suited to complete the task to a professional and competent manner with due regard to safe working practices.
- 3 Because of the particular nature of this unit standard, it is essential that the practical assessment evidence is obtained from commercial jobs in the workplace under normal workplace conditions.

Outcomes and evidence requirements

Outcome 1

Demonstrate knowledge of motorcycle transmissions.

Evidence requirements

- 1.1 The type of gears used in motorcycle transmissions, shaft layout, and gear and shaft locations are described according to manufacturer's workshop manual descriptions.
- Range unit construction, separate construction.
- 1.2 Methods of selecting and changing gears are described, and the parts of a selector mechanism are identified according to manufacturer's workshop manual descriptions and illustrations.
- Range drum and fork, claw and pin, pawl types.
- 1.3 Methods of lubricating gears, bearings, and bushes are described according to manufacturer's workshop manual descriptions.
- Range splash type, pressure type.
- 1.4 Power flow through the gearbox is explained by plotting through service manual diagrams.

Outcome 2

Test a motorcycle transmission for faults.

Evidence requirements

- 2.1 Safe working practices are observed throughout the task.
- Range personal safety, safety of others, equipment and motorcycle safety.
- 2.2 The level and condition of the transmission oil are checked visually, and any problems are noted.
- 2.3 Clutch operation and gear selection are tested with the motorcycle stationary and the engine running, and any problems are noted.

2.4 The motorcycle is operated in compliance with the Road Code to reproduce the fault symptoms and to test the operation of the clutch and transmission in each of the gears under various road conditions, and details of conditions when the symptoms occur are noted.

Range conditions – hilly and level terrain, accelerating, decelerating and cruising.

2.5 The test results are analysed, and the cause of the fault is identified.

Outcome 3

Overhaul a motorcycle transmission.

Evidence requirements

3.1 Safe working practices are observed throughout the task.

Range personal safety, safety of others, equipment and motorcycle safety.

3.2 Suitable tools and equipment are selected and used to enable the transmission to be overhauled.

3.3 The transmission assembly is removed from the frame in accordance with the motorcycle manufacturer's instructions, and in a manner that avoids personal injury and damage to the assembly and the motorcycle.

3.4 The assembly is drained of oil, and the oil is disposed of in an environmentally safe way.

3.5 The transmission is cleaned externally to prevent the ingress of dirt and foreign matter during disassembly.

3.6 The transmission is disassembled in the sequence and manner prescribed by the motorcycle manufacturer, and end play and signs that could indicate causes of faults are identified and noted.

3.7 All the transmission components are cleaned and inspected for wear, damage, and blockage of passageways, and any faults are rectified to meet motorcycle manufacturer's specifications.

3.8 The transmission is assembled in the sequence and manner prescribed by the motorcycle manufacturer, and any clearances are adjusted to comply with manufacturer's specifications.

3.9 The transmission assembly is installed in the frame in accordance with the motorcycle manufacturer's instructions, and filled with oil to meet manufacturer's specifications.

3.10 The gear selection linkage is adjusted in the manner prescribed by the motorcycle manufacturer.

Replacement information	This unit standard and unit standard 926 have been replaced by unit standard 24309, unit standard 24310, unit standard 24311, unit standard 24312 and unit standard 24313.
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This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	29 October 1993	31 December 2016
Review	2	4 October 1996	31 December 2016
Review	3	26 February 1999	31 December 2016
Review	4	25 February 2008	31 December 2016
Rollover	5	19 November 2010	31 December 2016
Rollover	6	18 February 2016	31 December 2020

Consent and Moderation Requirements (CMR) reference	0014
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Please note

Providers must be granted consent to assess against standards (accredited) by NZQA, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Consent requirements and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMR). The CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.