

|              |  |                |          |
|--------------|--|----------------|----------|
| <b>Title</b> | <b>Carry out diagnosis, servicing, and fault rectification in motorcycle or ATV final drives</b> |                |          |
| <b>Level</b> | <b>3</b>   | <b>Credits</b> | <b>5</b> |

|                |   |
|----------------|---|
| <b>Purpose</b> | <p>This unit standard is intended for people in the motorcycle repair industry.</p> <p>People credited with this unit standard are able to: check a drive chain and sprockets for serviceability; service a chain drive; diagnose shaft drive unit faults; disassemble, inspect, and rectify faults in shaft drive assemblies; diagnose belt drive unit faults; and disassemble, inspect, and rectify faults in belt drive assemblies, in motorcycle or ATV final drives.</p> |
|----------------|---|

|                       |  |
|-----------------------|--|
| <b>Classification</b> | Motor Industry > Automotive Transmission Systems |
|-----------------------|--|

|                        |          |
|------------------------|----------|
| <b>Available grade</b> | Achieved |
|------------------------|----------|

|                      |                         |
|----------------------|-------------------------|
| <b>Prerequisites</b> | Class 6 driver licence. |
|----------------------|-------------------------|

---

### Guidance Information

- 1 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable service information, and company requirements and legislative requirements. This includes the knowledge and use of suitable tools and equipment.
- 2 Performance of the outcomes of this unit standard must comply with the following:  
Health and Safety at Work Act 2015;  
Land Transport Rule: Vehicle Repair 1998;  
The Official New Zealand Road Code.
- 3 Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.
- 4 Definitions  
ATV stands for all-terrain vehicle.  
*Company requirements* refer to instructions to staff on policy and procedures that are available in the workplace. These requirements may include – company policies and procedures, work instructions, product quality specifications and legislative requirements.

*Service information* may include – technical information for a vehicle, machine, or product detailing operation; installation and servicing procedures; manufacturer instructions; technical terms and descriptions; and detailed illustrations.

*Suitable tools and equipment* refer to industry approved tools and equipment that are recognised within the industry as being the most suited to complete the task in a professional and competent manner with due regard to safe working practices.

- 5 For this unit standard, it is essential that the practical assessment evidence is obtained in the workplace under normal workplace conditions.

---

## Outcomes and performance criteria

### Outcome 1

Check a drive chain and sprockets for serviceability in motorcycle or ATV final drives.

#### Performance criteria

- 1.1 The condition of the drive chain is checked, and any faults are noted.
- Range adjustment, stretching, freedom of movement of links, lubrication, cleanliness.
- 1.2 The drive chain guides, slipper, and guards are checked visually for damage, security, wear, and adjustment, and any faults are noted.
- 1.3 The sprockets are inspected for wear and damage, and any faults are noted.
- 1.4 An assessment is made to determine the suitability of the components for further service, by comparing their condition with the maximum allowable wear rates specified by the manufacturer.

### Outcome 2

Service a chain drive in motorcycle or ATV final drives.

#### Performance criteria

- 2.1 Unserviceable sprockets, drive shock or guide rubbers and/or slipper, and guards are replaced.
- 2.2 The chain is cleaned and lubricated.
- Range chains with and without O-rings.
- 2.3 The chain is fitted and adjusted.

### Outcome 3

Diagnose shaft drive unit faults in motorcycle or ATV final drives.

**Performance criteria**

- 3.1 The level and condition of the final drive oil are checked, visually and by feel, and any discrepancies and oil leaks are noted.
- 3.2 The motorcycle or ATV is operated to reproduce the fault symptoms, and details of conditions when the symptoms occur are noted.
- 3.3 The rear wheel backlash is checked, and the result is noted and compared with manufacturer specifications.
- 3.4 The drive shaft is checked for runout, and the result is noted and compared with manufacturer specifications.
- 3.5 The test results are analysed to determine the probable causes of any faults found.

**Outcome 4**

Disassemble, inspect, and rectify faults in shaft drive assemblies in motorcycle or ATV final drives.

**Performance criteria**

- 4.1 The shaft drive assembly is disassembled, and any signs that could indicate the cause of the faults are noted.
- 4.2 The component parts are examined, and signs of wear and damage are identified.  
  
Range driveshaft splines, universal and CV (constant velocity) joints, pinion and ring gear, flanges, bearings, seals.
- 4.3 Parts not suitable for further service are replaced to meet manufacturer specifications.
- 4.4 The shaft drive assembly is assembled.
- 4.5 The pinion depth of mesh, backlash, and bearing preloads are adjusted and checked to ensure that they comply with manufacturer specifications.
- 4.6 The driveshaft is installed.
- 4.7 The shaft drive assembly is filled with oil to the specification and level prescribed by the manufacturer.

**Outcome 5**

Diagnose belt drive unit faults in motorcycle or ATV final drives.

**Performance criteria**

- 5.1 The motorcycle or ATV is operated to reproduce the fault symptoms, and details of conditions when the symptoms occur are noted.
- 5.2 The test results are analysed to determine the probable causes of any faults found.

**Outcome 6**

Disassemble, inspect, and rectify faults in belt drive assemblies in motorcycle or ATV final drives.

**Performance criteria**

- 6.1 The belt drive assembly is disassembled and inspected, and any signs that could indicate the cause of the faults are noted.
- 6.2 The component parts are examined, and any signs of wear and damage are identified.
- Range drive belt, pulleys, springs, centrifugal ratio changing mechanism, centrifugal clutch, shafts and splines.
- 6.3 Parts not suitable for further service are replaced to meet manufacturer specifications.
- 6.4 The belt drive assembly is assembled.

|                            |                  |
|----------------------------|------------------|
| <b>Planned review date</b> | 31 December 2025 |
|----------------------------|------------------|

**Status information and last date for assessment for superseded versions**

| Process      | Version | Date             | Last Date for Assessment |
|--------------|---------|------------------|--------------------------|
| Registration | 1       | 29 October 1993  | 31 December 2022         |
| Review       | 2       | 4 October 1996   | 31 December 2022         |
| Review       | 3       | 26 February 1999 | 31 December 2022         |
| Review       | 4       | 25 February 2008 | 31 December 2022         |
| Review       | 5       | 27 May 2021      | N/A                      |

|  |      |
|--|------|
| <b>Consent and Moderation Requirements (CMR) reference</b> | 0014 |
|--|------|

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

**Comments on this unit standard**

Please contact MITO New Zealand Incorporated [info@mito.org.nz](mailto:info@mito.org.nz) if you wish to suggest changes to the content of this unit standard.