

<b>Title</b>	<b>Demonstrate knowledge of diagnosing faults in motorcycle frame, steering, and suspension systems</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>2</b>

<b>Purpose</b>	This theory-based unit standard is for people in the motorcycle repair industry. People credited with this unit standard are able to demonstrate knowledge of diagnosing: motorcycle frame, suspension, and steering faults.
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<b>Classification</b>	Motor Industry > Vehicle Steering and Suspension
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 Legislation and publications relevant to this unit standard include but are not limited to – Land Transport Rules: Frontal Impact 2001, Rule 32006/1; Steering Systems 2001, Rule 32003/1; *Vehicle Inspection Requirements Manual (VIRM) – In-service Certification, Motorcycle section*.
- 2 Land Transport Rules are produced for the Minister of Transport by Land Transport New Zealand. These rules are available online at <http://www.landtransport.govt.nz/rules/>.  
The VIRM is published by Land Transport New Zealand and is available online at <http://www.landtransport.govt.nz/certifiers/virm-in-service/index.html>.
- 3 Definitions  
*Motorcycle* referred to in this unit standard includes on-road and off-road motorcycles, scooters, and all-terrain vehicles (ATVs).  
*Service information* may include but is not limited to – technical information of a vehicle, machine, or product detailing operation; installation and servicing procedures; manufacturer instructions and specifications; technical terms and descriptions; and detailed illustrations. This can be accessed in hard copy or electronic format and is normally sourced from the manufacturer.
- 4 Recommended entry information: Unit 24429, *Demonstrate knowledge of motorcycle frame, steering, and suspension systems*.

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### Outcomes and performance criteria

#### Outcome 1

Demonstrate knowledge of diagnosing motorcycle frame faults.

**Performance criteria**

1.1 Factors which affect the frame efficiency are described in accordance with service information.

Range alignment, damage, components, wear, security, corrosion.

1.2 Limitations of frame straightening are described in accordance with legislative requirements and service information.

**Outcome 2**

Demonstrate knowledge of diagnosing motorcycle suspension faults.

**Performance criteria**

2.1 Factors which affect suspension and handling characteristics are described in accordance with service information.

Range sprung and unsprung weight, spring operation, spring rate, damping, oil characteristics.

2.2 Factors which affect suspension damping characteristics and performance stability are identified in accordance with service information.

Range centistroke rating, temperature range, oil rating system.

2.3 Front and rear suspension inspection procedures to diagnose faults are described in accordance with service information and the VIRM requirements.

**Outcome 3**

Demonstrate knowledge of diagnosing motorcycle steering faults.

**Performance criteria**

3.1 Factors which affect steering characteristics are described in accordance with service information.

Range includes but is not limited to – steering axis, rake, caster angle, wear.

3.2 Steering component inspection procedures to diagnose faults are described in accordance with service information and the VIRM requirements.

<b>Replacement information</b>	This unit standard, unit standard 24429, and unit standard 24431 replaced unit standard 2311.
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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	25 January 2008	31 December 2020
Review	2	26 April 2018	31 December 2020

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

This unit standard is Expiring