

## Repair road transport heavy vehicle steering systems

**Level** 4

**Credits** 4

**Purpose** This unit standard is for people in the automotive heavy repair industry. People credited with this unit standard are able to diagnose and rectify road transport heavy vehicle steering component faults, and check and adjust power assisted steering for road transport heavy vehicles.

**Subfield** Motor Industry

**Domain** Vehicle Steering and Suspension

**Status** Registered

**Status date** 25 January 2008

**Date version published** 25 January 2008

**Planned review date** 31 December 2012

**Entry information** Prerequisite: Class 2, 3, 4, or 5 driver licence (if road testing the vehicle).

Recommended: Unit 24564, *Remove and replace steering and suspension components on motor vehicles or machines*, or demonstrate equivalent knowledge and skills.

**Accreditation** Evaluation of documentation and visit by NZQA and industry.

**Standard setting body (SSB)** NZ Motor Industry Training Organisation (Incorporated)

**Accreditation and Moderation Action Plan (AMAP) reference** 0014

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

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### Special notes

- 1 Legislation and publications relevant to this unit standard include but are not limited to – Health and Safety in Employment Act 1992; Land Transport Rules: Heavy Vehicles 2004, Rule 31002; Steering Systems 2001, Rule 32003/1; Vehicle Repair 1998, Rule 34001; *The Official New Zealand Road Code*, Land Transport New Zealand.

- 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/>. New Zealand Road Code information can be obtained from the following website <http://www.landtransport.govt.nz/roadcode>.
- 3 Definitions  
*Company requirements* refer to instructions to staff on policy and procedures which are documented in memo or manual format and are available in the workplace. These requirements include but are not limited to – company specifications and procedures, work instructions, manufacturer specifications, product quality specifications, and legislative requirements.  
*Heavy vehicle* refers to a motor vehicle that is of Class MD3, MD4, ME, NB, NC, TC or TD; or has a gross vehicle mass that exceeds 3500 kg and is not of a class specified in the Table of vehicle classes as listed from Land Transport New Zealand website <http://www.landtransport.govt.nz/publications/infosheets/infosheet-1-10.html#classes>.  
*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.  
*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 in a professional and competent manner with due regard to safe working practices.
- 4 For this unit standard, it is essential that the practical assessment evidence is obtained in the workplace under normal workplace conditions.
- 5 Road testing of heavy vehicles should only be undertaken by people holding the appropriate licence class or endorsement for the vehicle. For performance criterion 1.4, the candidate is required to accompany the driver to observe any steering faults if they do not hold the appropriate licence to drive the vehicle themselves.

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## Elements and performance criteria

### Element 1

Diagnose and rectify road transport heavy vehicle steering component faults.

Range may include but is not limited to – steering shaft, steering box, drop arm, drag link, track rod, steering arms, king pins, wheel bearings, spring shackles, U-bolts.

### Performance criteria

1.1 Safe working practices are observed throughout the task in accordance with legislative requirements.

Range personal safety, safety of others, vehicle safety, workshop safety, environmental safety, tools and equipment safety.

- 1.2 Suitable tools and equipment are selected and used to enable faults to be diagnosed and rectified in accordance with service information.
- 1.3 The vehicle steering components are inspected for security and wear which is outside the limits specified by the vehicle manufacturer.
- 1.4 The vehicle is arranged to be road tested in compliance with the Road Code and any steering faults observed are noted in accordance with company requirements.
- Range may include but is not limited to – wander, shimmy, oversteer, understeer, recovery.
- 1.5 Faulty steering components are returned to full serviceability in accordance with service information.
- Range adjust, repair, replace.
- 1.6 The tyres are inspected for indications of steering faults in accordance with company requirements.
- Range toe-in, toe-out, camber.
- 1.7 Arrangements are made for steering angles to be checked and adjusted in accordance with company requirements.

## **Element 2**

Check and adjust power assisted steering for road transport heavy vehicles.

### **Performance criteria**

- 2.1 Safe working practices are observed throughout the task in accordance with legislative requirements.
- Range personal safety, safety of others, vehicle safety, workshop safety, environmental safety, tools and equipment safety.
- 2.2 Suitable tools and equipment are selected and used to enable the steering system to be checked and adjusted in accordance with service information.
- 2.3 The power assisted steering is checked for oil leaks, wear, security and correct operation, and the results noted, in accordance with service information.
- Range may include but is not limited to – oil pump drive, oil pump, hoses, relief valve, ram security, ram movement, linkage.
- 2.4 Steering stops are adjusted to ensure the fixed stop clearance is within the limits set by the vehicle manufacturer.

### **Please note**

Providers must be 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 accredited by NZQA before they can register credits from assessment against unit standards.

Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

Accreditation requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP 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.

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### **Comments on this unit standard**

Please contact the NZ Motor Industry Training Organisation (Incorporated) [info@mito.org.nz](mailto:info@mito.org.nz) if you wish to suggest changes to the content of this unit standard.