

Dismantle, inspect, and overhaul vehicle manual steering boxes and rack assemblies

Level 3

Credits 2

Purpose This unit standard is for people in the automotive repair industry. People credited with this unit standard are able to dismantle, inspect, and overhaul a manual steering box and a manual steering rack assembly.

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 Recommended: Unit 21721, *Demonstrate knowledge of vehicle steering and suspension systems*, 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>.

Special notes

- 1 Legislation relevant to this unit standard includes but is not limited to – Health and Safety in Employment Act 1992; Land Transport Rules: Steering Systems 2001, Rule 32003/1; Vehicle Repair 1998, Rule 34001.
- 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/>.

- 3 Definitions
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 This unit standard can lead on to Unit 3398, *Disassemble, inspect, and overhaul power steering boxes and power steering rack assemblies*.

Elements and performance criteria

Element 1

Disassemble and inspect a manual steering box and a manual steering rack assembly.

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 the box and rack assembly to be disassembled and inspected in accordance with service information.
- 1.3 The steering box and rack assembly are cleaned externally to prevent the ingress of dirt and foreign matter during disassembly.
- 1.4 The steering box and rack assembly is disassembled, and seals, bearings, and bushes are removed in the sequence and manner prescribed by the manufacturer.
- 1.5 All parts are inspected for wear, and those that are worn beyond manufacturer service limits are replaced with new parts in accordance with service information.
- 1.6 All parts are inspected for damage, and those that are damaged are replaced with new parts in accordance with service information.

Element 2

Overhaul a manual steering box and a manual steering rack assembly.

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 box and rack assembly to be overhauled in accordance with service information.
- 2.3 Any parts worn beyond manufacturer service limits are replaced with new parts to manufacturer specifications.
- 2.4 Any parts that are damaged are replaced with new parts to manufacturer specifications.
- 2.5 Components of the steering box and rack assembly are assembled in the sequence and manner prescribed by the manufacturer, using the replacement parts, the specified lubricant, and the mandatory new parts.
- Range mandatory new parts include – bushes, bearings, seals, lockwashers;
may include – boots (bellows).
- 2.6 Adjustments are carried out in accordance with service information
- Range steering box – end play and backlash of the steering gear and cross-shaft;
rack assembly – bearing and rack preloads and clearances, pinion backlash and adjustments.

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.

Comments on this unit standard

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