

Domain	AUTOMOTIVE MECHANICS	Unit ID: 211
Title:	Inspect and service motor vehicle steering system	
Level: 3		Credits: 3

Purpose

This unit standard specifies the competencies required to inspect and service motor vehicle steering system. It includes the inspection, assessment and servicing of the steering system and/or associated parts. This unit standard is intended for those who work as automotive mechanics.

Special Notes

1. Entry information:
 - Prerequisite
 - Unit 65 - *Apply safety rules and regulations in an automotive mechanics workshop* or demonstrated equivalent knowledge and skills.

2. To demonstrate competence, at a minimum, evidence is required of inspecting and servicing a steering system according to manufacturers' specifications comprising the replacement and necessary adjustment of two (2) of the following system components:
 - wheel bearings
 - ball joints
 - tie rod ends
 - steering damper
 - steering coupling
 - rubber boots
 - struts
 - idler arms
 - steering box
 - hydraulic pump
 - column
 - shock absorbers.

3. Assessment evidence may be collected from a real workplace or a simulated real workplace or an appropriate simulated realistic environment in which automotive mechanics operations are carried out.

4. Glossary of terms:
 - '*vacuum*' means a condition in a closed system where the pressure is significantly lower than atmospheric pressure
 - '*steering system*' refers to rack and pinion steering and worm gearing steering (re-circulating-ball types) of both mechanical and power-assisted systems
 - '*specifications*' refers to any, or all of the following: manufacturers' specifications and recommendations, workplace specific requirements
 - '*service operations*' refers to 'on-vehicle service' where operations can be directly performed on the vehicle and 'component repair' where the

operations are done on the workbench after removing the component from the vehicle.

5. Performance of all elements in this unit standard must comply with manufacturers' specifications, workplace specific requirements and reasonable flat rate time.
6. Regulations and legislation relevant to this unit standard include the following:
 - Labour Act, No. 6, 1992
 - Occupational Health and Safety Regulations No. 18, 1997
 - Road Traffic and Transport Regulations No. 266, 2000and all subsequent amendments.
7. This unit standard applies to passenger and light commercial vehicles with a Gross Vehicle Mass \leq 5 500 kg (Petrol & Diesel).

Quality Assurance Requirements

This unit standard and others within this subfield may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the Namibia Training Authority and which comply with the national assessment and moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority and the Namibia Training Authority. All approved unit standards, qualifications and national assessment arrangements are available on the Namibia Training Authority website www.nta.com.na.

Elements and Performance Criteria

Element 1: Plan and prepare for work

Range

Planning and preparation may include but is not limited to workplace inspection, equipment defect identification, assessment of conditions and hazards and determination of work requirements.

Tools and equipment may include but are not limited to standard tool set, gauges, testing equipment and devices as per manufacturers' requirements.

Materials may include but are not limited to spare parts, lubricants, fluids, and cleaning material.

Performance Criteria

- 1.1 Work instructions, including repair order forms, specifications and operational details are obtained, confirmed and applied.
- 1.2 Safety requirements are followed in accordance with safety plans and policies.
- 1.3 Tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults rectified or reported prior to commencement.

- 1.4 Material requirements are identified and obtained in accordance with repair order form and/or specifications.
- 1.5 Materials are safely handled and located ready for use in line with workplace procedures.
- 1.6 Technical and/or calibration requirements for tools and equipment are sourced and implemented in line with workplace procedures.
- 1.7 Environmental protection requirements are identified and applied in line with environmental plans and regulatory obligations.

Element 2: Inspect and assess motor vehicle steering system

Range

Inspection methods are to include but are not limited to functional testing, measurements, visual, aural and functional assessment (including damage, corrosion, leakage, wear) in line with manufacturers' specifications.

Performance Criteria

- 2.1 Procedures and information required for inspecting a motor vehicle steering system are identified and sourced in line with workplace procedures.
- 2.2 Inspection methods are implemented according to workplace procedures and manufacturers' specifications.
- 2.3 Inspection results are compared with manufacturers' specifications.
- 2.4 Results are documented with evidence and supporting information and recommendation(s) are made in line with workplace procedures.
- 2.5 Report is forwarded to appropriate personnel according to workplace procedures.

Element 3: Service steering system and/or associated parts

Range

Service operations may include but are not limited to isolation of faults, removing and installing, disassembling and assembling, inspection and evaluation, adjustments, operational testing, repair, replacement, lubrication and visual inspections in line with manufacturers' specifications.

System and associated parts may include but are not limited to wheel bearings, ball joints, tie rod ends, steering damper, steering coupling, rubber boots, struts, idler arms, steering box and column, hydraulic pump and shock absorbers.

Performance Criteria

- 3.1 Procedures and information required for servicing a motor vehicle steering system identified and sourced in line with workplace procedures.
- 3.2 Servicing is implemented according to workplace procedures and manufacturers' specifications.
- 3.3 Adjustments and lubrication made during the service are undertaken in line with manufacturers' specifications.

Element 4: Complete work and clean up

Range

Work completion details may include but are not limited to repair order form, sign-out form for equipment, service record book and service plan form.

Performance Criteria

- 4.1 Work is completed and appropriate personnel notified in accordance with workplace procedures.
- 4.2 Work area is cleared of waste, cleaned, restored and secured in accordance with workplace procedures.
- 4.3 Reusable material is collected and stored in accordance with workplace procedures.
- 4.4 Equipment used is cleaned, checked, maintained and stored in accordance with workplace procedures.
- 4.5 Work completion details are finalised in accordance with workplace procedures.

Registration Data

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