

Domain	AUTOMOTIVE MECHANICS	Unit ID: 78
Title:	Service motor vehicle drive train shafts, joints and bearings	
Level: 2		Credits: 3

Purpose

This unit standard specifies the competencies required to service motor vehicle drive train shafts, joints and bearings. It includes inspection, removal, refitting and adjustment procedures. 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, removing, servicing, refitting and adjusting driveline components of a motor vehicle to include one front and one rear wheel drive train shaft, one universal and one constant velocity joint, and one centre, one front wheel and one rear wheel bearing. Perform these tasks ensuring correct identification of requirements, selection and use of appropriate processes, tools and equipment and completing all work to specification.
3. Assessment evidence may be collected from a real workplace or a simulated real workplace or an appropriate simulated realistic environment in which automotive mechanic operations are carried out.
4. All inspection, operation and maintenance procedures associated with the use of tools and equipment shall comply with manufacturers' and company guidelines, instructions and reasonable flat rate time.
5. '*Specifications*' refers to any, or all of the following: manufacturers' specifications and recommendations, workplace specific requirements.
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, 2000
 and 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 on www.nta.com.na.

Elements and Performance Criteria

Element 1: Plan and prepare for work

Range

Planning and preparation may include but are 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 tool set, special tools and equipment as required, torque wrench, lift (hoist), work bench with vice.

Materials are to include but are not limited to grease as required, 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 Materials appropriate to the work application are identified, obtained, prepared, safely handled and located, ready for use.
- 1.5 Environmental protection requirements are identified and applied in line with environmental plans and regulatory obligations.

Element 2: Conduct inspections of drive train shafts, joints and bearings

Range

Inspection of drive train shafts, joints and bearings are to include: rubber boots and associated parts.

Inspection for compliance may include but is not limited to roughness, vibration and excessive play.

Performance Criteria

- 2.1 Warnings in relation to working with rotating devices are observed in line with workplace procedures.
- 2.2 Inspections are implemented in line with workplace procedures and manufacturers' specifications.
- 2.3 Inspection results are checked for compliance with manufacturers' specifications.
- 2.4 Inspection results, along with evidence, supporting information and recommendations are documented in line with workplace procedures.
- 2.5 Report is forwarded to supervisor or appropriate person for action and in line with workplace procedures.

Element 3: Remove drive train shafts, joints and bearings

Range

Drive train shafts, joints and bearings may include but are not limited to front-, rear- and all wheel drive shafts, universal joints and their alignment, constant velocity joints, joints for independent rear suspension, centre bearings and wheel bearings.

Performance Criteria

- 3.1 Removal procedure is identified and correctly interpreted from workshop manual prior to removal of components.
- 3.2 System components are removed using tool set, special tools and equipment in line with workplace procedures.
- 3.3 Removed system components are safely stored in an appropriate location and in line with workplace procedures.
- 3.4 Identified component faults are reported to the supervisor and discussed for further instructions.

Element 4: Service drive train shafts, joints and bearings

Range

Servicing may include but is not limited to lubrication, adjustments and operational testing, visual inspections and documentation.

Performance Criteria

- 4.1 Service is implemented in accordance with workplace procedures and manufacturers' specifications.
- 4.2 Adjustments are made during the service as required and in line with manufacturers' specifications.

Element 5: Refit and adjust drive train shafts, joints and bearings

Range

Drive train shafts, joints and bearings may include but are not limited to front, rear and all wheel drive shafts, universal joints and their alignment, constant velocity joints, joints for independent rear suspension, centre bearings and wheel bearings.

Performance Criteria

- 5.1 Components are refitted according to manufacturers' specifications and instructions.
- 5.2 Fluids and lubricants required during the refitting procedures are used in line with manufacturers' specifications.
- 5.3 Refitted components are adjusted in line with manufacturers' specifications.

Element 6: Complete work and clean up

Range

Work completion details may include, are but not limited to work schedule or appointment sheet, vehicle drop-off form, repair order form, service record book, service plan form, sign-out form for equipment.

Performance Criteria

- 6.1 Work is completed and appropriate personnel notified in accordance with workplace procedures.
- 6.2 Work area is cleared of waste, cleaned, restored and secured in accordance with workplace procedures.
- 6.3 Reusable material is collected and stored in accordance with workplace procedures.
- 6.4 Tools and equipment are cleaned, checked and maintained in accordance with workplace procedures.
- 6.5 Work completion details are finalised in accordance with workplace procedures.

Registration Data

Subfield:	Automotive Engineering
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