

**Domain**

**REPAIRS AND MAINTENANCE**

**Unit ID 1384**

**Title:**

**Carry out basic repair and  
maintenance of farm vehicles, tractors  
and stationary engines**

**Level: 2**

**Credits: 4**

**Purpose**

This unit standard specifies the competencies required to:

- Demonstrate knowledge of principles of repair and maintenance of farm vehicles, tractors and stationary engines
- Prepare for repair and maintenance of farm vehicles, tractors and stationary engines
- Perform minor repair and maintenance of farm vehicles and tractors
- Perform minor repair and maintenance of small farm stationary engines
- Complete repairs and maintenance of farm vehicle, tractors and stationary engines

This unit is intended for people who work in agriculture as well as people in other occupations that work with farm machinery.

**Special Notes**

1. Entry information:

Prerequisites:

- None

2. This unit standard is to be delivered and assessed in the context of agricultural operations and can be assessed in conjunction with other relevant technical unit standards.

3. The evidence required to demonstrate competency in this unit must be relevant to workplace operations

4. Assessment evidence may be collected from a real workplace or an appropriate simulated environment in which agricultural operations are carried out.

5. Assessment of competence in this unit is based on a minimum of one type of vehicle, one type of tractor and one type of stationary engine as relevant to this unit standard.

6. All inspection, operation and maintenance procedures associated with the use of tools and equipment shall comply with manufacturers' guidelines and instructions.

7. It is expected that the participants of this course will not go out of the farm roads to drive vehicles and tractors on public roads unless they are in possession of a Namibian drivers licence B class or equivalent.

## 8. Glossary of terms

'Workplace procedures' may include but are not limited to work notes, plans, product labels, manufacturer's specifications, operator's manuals, safety plans, fire control, waste disposal, recycling, re-use guidelines and supervisors oral or written instructions.

'Tractors and farm vehicles' may include but are not limited to two wheel drive or four wheel drive tractors, bakkies, motorcycles and light trucks.

'Machinery, engines and equipment' that is used on agricultural enterprises may include but is not limited to stationary engines, tractors, vehicles and trucks, self-propelled harvesters and pickers, front end loaders, forklifts.

Personal protective equipment may include but is not limited to boots, hat/hard hat, overalls, gloves, protective eyewear, hearing protection, high visibility clothing, respirator or facemask and sun protection.

"Safety requirements" may include but are not limited to safe systems and procedures for safe worksite work practices, carrying out maintenance operations, manual handling, hazard and risk control, the handling, application and storage of hazardous substances, operating and handling equipment safe use of hand and power tools and equipment, clear communication signals between operators, maintaining personal hygiene, outdoor work and the appropriate use and maintenance of personal protective equipment.

"Hazards" may include but are not limited to exposure to loud noise and fumes, solar radiation, dust, hazardous substances, oil and grease spills, electricity, mechanical malfunctions and entanglement with machinery from exposed moving parts.

## 9. Regulations and legislation relevant to this unit standard include the following:

- Labour Act, No. 11, 2007
- Regulations relating to the Health and Safety of employees at work, 1997
- National Agricultural Policy , 1995
- National Drought Policy , 1997
- Road Traffic and Transport Regulations 2001
- Environmental Management Act-No: 7 of 2007
- Biosafety Act, No. 7, 2006
- Standards Act, 2005, Standards Regulations: Standards Act, 2005 and relevant Namibian Standards as established

and all subsequent amendments to any of the above.

### **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](http://www.nta.com.na).

## **Elements and Performance Criteria**

### **Element 1. Demonstrate knowledge of principles of repair and maintenance of farm vehicles, tractors and stationary engines**

#### **Range**

Farm vehicles and engines may include but are not limited to at least one tractor, one vehicle and one stationary engine.

#### **Performance Criteria**

- 1.1 Basic principles of repairs and maintenance of farm vehicles, tractors and engines is described.
- 1.2 Parts of farm vehicles, tractors and engines are named and identified.

### **Element 2. Prepare for repair and maintenance of farm vehicles, tractors and stationary engines**

#### **Range**

Maintenance plan may include but is not limited to details of scheduled maintenance and servicing requirements.

Tools and supplies may include but are not limited to hand tools, hand held power tools, grease guns, safety equipment, cleaning and maintenance supplies including, grease, fuel, oil, chemicals, water, power and air.

#### **Performance Criteria**

- 2.1 Maintenance plans are accessed and understood prior to undertaking maintenance work according to workplace requirements.
- 2.2 Safety requirements are followed in accordance with safety plans and policies.
- 2.3 Tools and supplies that are appropriate to job requirements are selected and confirmed against the maintenance plan.
- 2.4 Tools are inspected for serviceability and prepared for use according to manufacturer's specifications or workplace procedures.
- 2.5 Hazards are identified and safety concerns reported to the supervisor.

### **Element 3. Perform minor repair and maintenance of farm vehicles and tractors**

#### **Range**

Basic servicing procedures may include but are not limited to oil change, filter change, greasing and lubricating, inspections of water, fuel, oil and battery levels, inspections of tyre pressures, fan belts, leads, lines, connections, air filters, electrical, hydraulics, steering,

lighting, transmission, confirmation of safety guards, Power Take Off (PTO) stubs and shafts.

Machinery covered may include but is not limited to motorised equipment and implements, tractors, harvesters, firefighting units, vehicles and motorcycles.

Mechanical faults can be defined as basic faults and may include damage, wear, malfunction or unsoundness.

### **Performance Criteria**

- 3.1 Suitable personal protective equipment is selected, used, maintained and stored according to workplace procedures.
- 3.2 Cleaning, greasing, lubrication and other basic servicing of machinery are carried out according to manufacturer's specifications and /or workplace procedures.
- 3.3 Equipment is adjusted according to manufacturer's specifications and workplace procedures.
- 3.4 Basic diagnostic techniques are applied and mechanical faults are identified and rectified according to supervisors instructions.
- 3.5 More serious or complex faults are reported for referral according to workplace procedures.

### **Element 4. Perform minor repair and maintenance of small farm stationary engines**

#### **Performance Criteria**

- 4.1 Suitable personal protective equipment is selected, used, maintained and stored according to workplace procedures.
- 4.2 Cleaning, greasing, lubrication and other basic servicing of engines are carried out according to manufacturer's specifications and /or workplace procedures.
- 4.3 Equipment is adjusted according to manufacturer's specifications and workplace procedures.
- 4.4 Basic diagnostic techniques are applied and mechanical faults are identified and rectified according to supervisors instructions.
- 4.5 More serious or complex faults are reported for referral according to workplace procedures.

### **Element 5. Complete repairs and maintenance of farm vehicles, tractors and stationary engines**

#### **Range**

Environmental requirements may include but are not limited to the safe use and disposal of maintenance debris including oil containers, fuel and chemical residues, increased runoff flows caused by servicing, maintenance and cleaning activities.

Relevant information may include but is not limited to tool usage, machinery servicing, repair procedures and outcomes.

### **Performance Criteria**

- 5.1 Tools are cleaned and stored according to workplace procedures.
- 5.2 Waste from maintenance activities is collected and disposed of or recycled according to workplace environmental requirements.
- 5.3 Work areas are cleaned, returned to operating condition and maintained according to workplace procedures.
- 5.4 Relevant information is recorded and reported according to workplace procedures.

### **Registration Data**

<b>Subfield:</b>	Machinery and Equipment
<b>Date first registered:</b>	25 November 2015
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<b>Body responsible for review:</b>	Namibia Training Authority