

**Domain****AIR CONDITIONING AND  
REFRIGERATION****Title:****Service air conditioners****Level: 2****Credits: 11****Purpose**

This unit standard specifies the competencies required to service air conditioners. It includes testing air conditioner functions' efficiency, cleaning air conditioners' components and repairing air conditioners. This unit standard is intended for those who work as air conditioning and refrigeration mechanics.

**Special Notes**

1. Entry information:

Prerequisite

- Unit 567 - *Apply health and safety routines in an air conditioning and refrigeration workplace* or demonstrated equivalent knowledge and skills.

2. Assessment evidence may be collected from a real workplace or a simulated real workplace or an appropriate simulated realistic environment in which air conditioning and refrigeration operations are carried out.

3. All inspection, operation and maintenance procedures associated with the use of tools and equipment shall comply with manufacturers' specifications and/or company's guidelines and instructions.

4. Glossary of terms:

- 'service' refers to testing, cleaning and including repairing of faulty components of the air conditioner
- 'specifications' refers to any, or all of the following: manufacturers' specifications and recommendations, workplace specific requirements.

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

- Labour Act, No. 11, 2007
- Occupational Health and Safety Regulations No. 18, 1997 and all subsequent amendments.

6. Performance of all elements in this unit standard must comply with industry standards.

7. This unit standard applies to single-phase and three-phase air conditioning and refrigeration systems.

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

## **Elements and Performance Criteria**

### **Element 1: Plan and prepare for work.**

#### **Range**

Tools and equipments may include but are not limited to screw drivers, cloth, bucket of water, blower, hosepipe, ladder, manifold gauges, adjustable wrenches, and cleaning brush.

#### **Performance Criteria**

- 1.1 Work instructions, including job cards, specifications and operational details are obtained, confirmed and applied.
- 1.2 Workplace inspection, equipment defect identification, assessment of conditions and hazards and determination of work requirements is carried out.
- 1.3 Safety requirements are followed in line with safety plans and policies.
- 1.4 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.
- 1.5 Material requirements are identified and obtained in line with job card and/or specifications.
- 1.6 Materials are safely handled and located ready for use in line with workplace procedures.
- 1.7 Technical and/or calibration requirements for tools and equipment are sourced and implemented in line with workplace procedures.
- 1.8 Environmental protection requirements are identified and applied in accordance with environmental legislative requirements.

## **Element 2: Test air conditioner functions' efficiency.**

### **Range**

Visual inspection may include but is not limited to vibration and noising appliance.

Operational tests may include but are not limited to mechanical tests (pressure test, leakage test) and electrical circuit tests.

### **Performance Criteria**

- 2.1 Procedures and information required for testing air conditioner functions' efficiency are identified and sourced in line with workplace procedures.
- 2.2 Visual inspections are carried out in line with workplace procedures.
- 2.3 Operational tests of the air conditioner are conducted in line with industry requirements.
- 2.4 Fault(s) are identified and rectified and/or reported to appropriate personnel in line with workplace procedures.

## **Element 3: Clean air conditioner components.**

### **Range**

Air conditioner components may include but are not limited to filters, condenser, drain pipe and evaporator coil.

Cleaning equipments may include but are not limited to air blower, cleaning brush, cloth and solvent such as sippy water.

### **Performance Criteria**

- 3.1 Procedures and information required for cleaning air conditioner components are identified and sourced in line with workplace procedures.
- 3.2 Appliance is isolated from power source.
- 3.3 Cleaning methods are implemented in line with workplace procedures and appliance nature.

#### **Element 4: Repair air conditioner.**

##### **Range**

Repair methods may include but are not limited to disassembling and assembling of appliance components and replacements.

##### **Performance Criteria**

- 4.1 Procedures and information required for repairing air conditioner are identified and sourced in line with workplace procedures.
- 4.2 Safety procedures are followed in line with workplace procedures.
- 4.3 Repair methods are implemented in line with workplace procedures and legislative requirements.
- 4.4 Component parts are tagged during the dismantling to help ensure correct and efficient reassembling and stored to protect them against loss or damage.
- 4.5 Replacement components/parts are obtained in line with workplace procedures

#### **Element 5: Complete work and clean up.**

##### **Range**

Work completion details may include but are not limited to job card, sign-out form for equipment, and maintenance form.

##### **Performance Criteria**

- 5.1 Work is completed and appropriate personnel notified in line with workplace procedures.
- 5.2 Work area is cleared of waste, cleaned, restored and secured in line with workplace procedures.
- 5.3 Reusable material is collected and stored in line with workplace procedures.
- 5.4 Equipment used is cleaned, checked, maintained and stored in line with workplace procedures.
- 5.5 Work completion details are finalised in line with workplace procedures.

## **Registration Data**

<b>Subfield:</b>	Mechanical Engineering
<b>Date first registered:</b>	27 May 2010
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<b>Body responsible for review:</b>	Namibia Training Authority