



**Australian Government**

# **UEENEEH103A Repair routine business equipment faults**

**Release 2**

# UEENEEH103A Repair routine business equipment faults

## Modification History

Not applicable.

## Unit Descriptor

### Unit Descriptor

#### 1) Scope:

##### 1.1) Descriptor

This unit covers the confirmation of predictable faults and repair of such faults by repair or replacement of mechanical components and replacement of discrete and integrated components of business electronic equipment. It encompasses safe working practices, following written and oral instruction and routine testing and repair procedures, verifying equipment operation and reporting.

## Application of the Unit

### Application of the Unit 2)

This unit is intended for competency development entry-level employment based programs incorporated in approved contracts of training or approved training programs. It may also used to augment formally acquired competencies.

## Licensing/Regulatory Information

### License to practice 3)

The skills and knowledge described in this unit do not require a license to practice in the workplace provided equipment is not connected to installation wiring at voltage above 50 V a.c. or 120 V d.c. However, practice in this unit is subject to regulations directly related to occupational health and safety and where applicable contracts of training such as apprenticeships.

**License to practice****3)**

Note:

1. Compliance with permits may be required in various jurisdictions and typically relates to the operation of plant, machinery and equipment such as elevating work platforms, powder operated fixing tools, power operated tools, vehicles, road signage and traffic control, lifting equipment and the like. Permits may also be required for some work environments such as confined spaces, working aloft, near live electrical apparatus and site rehabilitation.

2. Compliance may be required in various jurisdictions relating to currency in First Aid, confined space, lifting and risk safety measures

**Pre-Requisites****Prerequisite Unit(s)****4)****Competencies****4.1)**

Granting competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed.

UEENEEE1 01A Apply Occupational Health and Safety regulations, codes and practices in the workplace

UEENEEE1 02A Fabricate, dismantle, assemble of utilities industry components

UEENEEE1 05A Fix and secure electrotechnology equipment

UEENEEE1 07A Use drawings, diagrams, schedules, standards, cords and specifications

**Literacy and numeracy skills****4.2)**

Participants are best equipped to achieve competency in this unit if they have reading, writing and numeracy skills

indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3      Writing 3      Numeracy 3

## Employability Skills Information

### Employability Skills 5)

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

## Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit      Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

## Elements and Performance Criteria

### ELEMENT

### PERFORMANCE CRITERIA

- |   |  |
|---|--|
| 1 Prepare to repair business equipment. | 1.1 OHS procedures for a given work area are identified, obtained and understood through established routines and procedures.                    |
|   | 1.2 Established OHS risk control measures and procedures are followed in preparation for the work.   |
|   | 1.3 The nature of the repair is obtained from documentation or from work supervisor or customer to establish the scope of work to be undertaken. |

**ELEMENT****PERFORMANCE CRITERIA**

- |   |                            |   |
|---|----------------------------|---|
|   | 1.4                        | Advice is sought from the work supervisor to ensure the work is co-ordinated effectively with others.   |
|   | 1.5                        | Sources of materials that may be required for the work are established in accordance with established routines and procedures.  |
|   | 1.6                        | Tools, apparatus and testing devices needed to carry out the work are obtained and checked for correct operation and safety.  |
| 2 | Repair business equipment. |   |
|   | 2.1                        | Established OHS risk control measures and procedures for carrying out the work are followed.  |
|   | 2.2                        | The need to test or measure live is determined in strict accordance with OHS requirements and when necessary conducted within established safety procedures.            |
|   | 2.3                        | Circuits/equipment are checked as being isolated where necessary in strict accordance OHS requirements and procedures.  |
|   | 2.4                        | Predictable faults are confirmed by following routine testing procedures.   |
|   | 2.5                        | Apparatus is dismantled in accordance with manufacturer's service guide and supervisor's instructions.  |
|   | 2.6                        | Component parts are tagged during the dismantling to help ensure correct and efficient reassembly and stored to protect them against loss or damage.                    |
|   | 2.7                        | Repairs are made in accordance with manufacturer's service guide and supervisor's instructions.   |
|   | 2.8                        | Apparatus is assembled in an appropriate sequence with all components parts placed, secured and connected in accordance with manufacturer's guide or industry practice. |
|   | 2.9                        | Repaired equipment is test in accordance with   |

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
	routine procedures to verify that it functions correctly.
	2.10 Procedures for referring non-routine events to immediate supervisor for directions are followed.
	2.11 Repairs are carried out efficiently without waste of materials or damage to apparatus and the surrounding environment or services and using sustainable energy practices.
3 Complete and report repair work activities.	3.1 OHS work completion risk control measures and procedures are followed.
	3.2 Work area is cleaned and made safe in accordance with established procedures.
	3.3 Equipment is place into service and customer and work supervisor notified of the completion of the repair work in accordance with routine procedures.
	3.4 Service report is complete in accordance with routine procedures.

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of safe working practices and carrying out routine repairs to business equipment.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

#### **KS01-EH103A Business equipment fault finding and repair**

Evidence shall show an understanding of business equipment fault finding and repair, applying safe working practices and relevant Standards, Codes and Regulations to an extent indicated by the following aspects:

##### T1. Operational concepts of business machines

- Purpose and function of common business machines
- Operation, adjustment and maintenance of photocopiers, facsimile machines, printers and PCs
- The electronic communications and connections between business machines
- Hazardous materials used in the office and handling procedures

##### T2. Electro-mechanics of business machines

- The operating features of electric motors, relays and solenoids, clutches and tachometers
- Function and operation of feed mechanisms, drive-trains and cleaning processors

##### T3. Business equipment software basics

- Programming methods
- Configuration options
- Administration and maintenance functions

##### T4. Electronic cable and conductor terminations

- Cable and conductor types and characteristics:
  - Insulated wire
  - Harness wiring,
  - High performance cables - characteristics are transmission performance parameters and electrical characteristics
  - Types include UTP, FTP, and STP
- Coaxial cables types and characteristics - qualshield, trishield coaxial are armour plated coaxial cables
- Cable anchoring and support methods
- Termination methods

##### T5. Electronic safe working practices

## REQUIRED SKILLS AND KNOWLEDGE

- Risk management and assessment of risk encompassing:
    - Principle and purpose of risk management, and
    - Processes for conducting a risk assessment
  - Hazards associated with low-voltage, extra-low voltage and high-currents encompassing:
    - Parts of an electronic systems and equipment that operate at low-voltage and extra-low voltage,
    - Parts of an electronic systems and equipment where high-currents are likely.
  - Risks and control measures associated with high-voltage encompassing:
    - Parts of an electronic systems and equipment that operate at high-voltage,
    - The terms used - 'touch voltage', 'step voltage', 'induced voltage' and 'creepage' as they relate to the hazards of high-voltage, and
    - Control measures used for dealing with the hazards of high-voltage.
  - Risks and control measures associated with low voltage encompassing:
    - Risks associated with installation, fault finding, maintenance and repair.
    - Control measures before, while and after working on electronic systems or equipment
    - Isolation and tagging-off procedures.
    - Risks and restrictions in working live.
    - Control measures for working live.
  - Safety, selection, use, maintenance and care of test equipment encompassing:
    - Safety characteristics of electrical testing devices,
    - Chemical cleaning solvents, glues and joining wastes used in electronics,
    - Safe use of electrical testing device, and
    - Checks and storage methods for maintaining the safety of testing devices.
- T6. Business equipment fault finding and repair
- Fault finding table, charts and procedures
  - Testing procedures
  - Component replacement and repair
- T7. Enterprise communication methods
- Communicating with personnel encompassing:
    - Oral communications
    - Written procedures and work instructions
  - Communicating with suppliers
  - Communicating with customers



## Evidence Guide

### EVIDENCE GUIDE

9) The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package. .

The Evidence Guide forms an integral part of this unit. It must be used in conjunction with all parts of the unit and performed in accordance with the Assessment Guidelines of this Training Package.

### Overview of Assessment 9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry-preferred model for apprenticeships. However, where summative (or final) assessment is used it must include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with industry and regulatory policy.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal everyday work influence decisions about how/how much the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

**Critical aspects of evidence required to demonstrate competency in this unit 9.2)**

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each Element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines – UEE11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
  - Implement Occupational Health and Safety workplace procedures and practices, including the use of risk control measures as specified in the performance criteria and range statement
  - Apply sustainable energy principles and practices as specified in the performance criteria and range statement
  - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit. It may be required by some jurisdictions that RTOs provide a percentile graded result for the purpose of regulatory or licensing requirements.
  - Demonstrate an appropriate level of skills enabling employment
  - Conduct work observing the relevant Anti Discrimination legislation, regulations, policies and workplace procedures
- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
  - Carry out routine repairs to business equipment as described in 8) and including:
    - A Following service instructions to confirm reported fault.
    - B Following service instructions to access components.
    - C Removing and replace mechanical components.
    - D Removing and replace electrical/electronic components.
    - E Reassembling the business equipment correctly.

F Testing equipment operation.

G Completing service report accurately.

H Dealing with unplanned events by drawing on essential knowledge and skills to provide appropriate solutions incorporated in a holistic assessment with the above listed items.

Note:

Successful completion of relevant vendor training may be used to contribute to evidence on which competency is deemed. In these cases the alignment of outcomes of vendor training with performance criteria and critical aspects of evidence shall be clearly identified.

**Context of and  
specific  
resources for  
assessment** 9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this unit.

These should be part of the formal learning/assessment environment.

Note:

Where simulation is considered a suitable strategy for assessment, conditions must be authentic and as far as possible reproduce and replicate the workplace and be consistent with the approved industry simulation policy.

The resources used for assessment should reflect current industry practices in relation to carrying out routine repairs to business equipment.

**Method of  
assessment** 9.4)

This unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note: Competent performance with inherent safe working practices is expected in the industry to which this unit applies.

This requires that the specified essential knowledge and associated skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and skills described in this unit.

**Concurrent  
assessment and  
relationship with  
other units**

**9.5)**

For optimisation of training and assessment effort, competency development in this unit may be arranged concurrently with unit:

UEENEEED101A Use computer applications relevant to a workplace

UEENEEEE102A Fabricate, assemble and dismantle utilities industry components

UEENEEEE107A Use drawings, diagrams, schedules, standards, codes and specifications

UEENEEEH102A Repair basic electronic apparatus faults by replacement of components

## Range Statement

### RANGE STATEMENT

**10)** This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This unit shall be demonstrated in carrying out routine repairs to business equipment by confirming at least four predictable faults in low volume (up to 40 ppm) photocopiers and following routine procedures to repair such faults.

Generic terms used throughout this Vocational Standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms that apply are given in Volume 2, Part 2.1.

## **Unit Sector(s)**

Not applicable.

## **Competency Field**

**Competency Field**            11)  
    Electronics