



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **UEENEEA103A Set up and check electronic component assembly machines**

**Release: 1**

## **UEENEEA103A Set up and check electronic component assembly machines**

### **Modification History**

Not applicable.

### **Unit Descriptor**

#### **Unit Descriptor**

#### **1) Scope:**

##### **1.1) Descriptor**

This unit covers the setting up of electronic circuit board assembly machines. It encompasses working safely, interpreting job specifications, identifying components by colour code and markings, following machine set-up routines and following quality procedures and work instructions.

### **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.

### **Licensing/Regulatory Information**

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

The skills and knowledge described in this unit do not require a licence to practise in the workplace. 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.

## 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.

UEENEEA1 Assemble electronic components  
01A

UEENEEA1 Select electronic components for assembly  
02A

For the full prerequisite chain details for this unit please refer to Table 2 in Volume 1, Part 2

**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)

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 set-up machine.	1.1 OHS procedures for a given work area are identified, obtained and understood
	1.2 Established OHS risk control measures for work preparation are followed.
	1.3 Work instructions are obtained and understood
	1.4 Advice is sought from the work supervisor to ensure that work is co-ordinated effectively with others
	1.5 Materials required for the work are obtained in accordance with established routines and procedures
	1.6 Tools, equipment and testing devices needed to carry out the work are obtained and checked for correct operation and safety
2 Set-up machine.	2.1 Established OHS risk control work measures are followed
	2.2 Machines are checked as being isolated where necessary in strict accordance OHS requirements and procedures
	2.3 Electronic components are selected, sorted and placed in accordance with work instructions and established routines
	2.4 Machine is set up in accordance with routine instructions ensuring specified components are loaded correctly
	2.5 Prescribed solutions are used to resolve issues

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
	with supply of component
	2.6 Routine quality checks are conducted to ensure components comply with enterprise/industry standards
	2.7 Work is completed in acceptable timeframe given environment and workplace conditions
3 Complete work report.	3.1 Established OHS risk control measures for work completion are followed.
	3.2 Operational checks of machine are carried out in accordance with established routines to ensure quality outcome are met
	3.3 Work report forms/data sheets on components are completed accurately

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

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

Evidence must show that knowledge has been acquired of safe working practices and setting up and checking electronic component placement machines.

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

#### **KS01-EA103A** **machines**

#### **Electronic component assembly placement**

Evidence shall show an understanding of electronic component place equipment, applying safe working practices and relevant Standards, Codes and Regulations to an extent indicated by the following aspects:

- T1. Process control requirements and procedures
- T2. Solder paste composition encompassing:
  - storage and shelf life
  - preparation
  - testing
- T3. Solder paste deposition equipment encompassing:
  - manual, setup and application
  - automatic, setup and application
- T4. Automatic component placement systems encompassing:
  - set up
  - operation
  - adjustments
- T5. Reflow ovens and solder reflow
- T6. Cleaning agents and techniques
- T7. Inspection methods and procedures

## Evidence Guide

### EVIDENCE GUIDE

9) This provides essential advice for assessment of the unit. It must be read in conjunction with the performance criteria and the range statement of the unit and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this unit. It must be used in conjunction with all parts of this 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 is to 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 every day work have a bearing on the decision as to how much and how detailed 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 must be met.

Evidence for competence in this unit must 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:
  - Set-up and check electronic component placement machines as described in 8) and including:
    - A Following assembly job specifications.
    - B Identifying components.
    - C Handling components without damaging them.
    - D Conducting machine operation checks.



- E Adhering to quality procedures.
- F Dealing with unplanned events by drawing on essential knowledge and skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items.

**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 in this unit.

These should be used in the formal learning/assessment environment.

Note:

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

The resources used for assessment should reflect current industry practices in relation to setting up and checking electronic component placement machines.

**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 assessment 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:

UEENEEA10 Assemble electronic components  
1A

UEENEEA10 Select electronic components for assembly  
2A

**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 must be demonstrated by setting up and checking electronic component assembly machines in an environment designed specifically for the purpose.

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)  
Assembly