



Australian Government

Department of Education, Employment and Workplace Relations

UEENEEE002B Dismantle, assemble and fabricate electrotechnology components

Release: 1

UEENEEE002B Dismantle, assemble and fabricate electrotechnology components

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

1)

1.1) Descriptor

This unit covers basic fitting and fabrication techniques as they apply in the various electrotechnology work functions. It encompasses the safe use of hand, fixed and portable power tools; cutting, shaping joining and fixing using metallic and non-metallic materials; dismantling and assembling equipment; basic mechanical measurement and marking-out and reading diagrams.

Application of the Unit

Application of the Unit 4)

This unit shall apply to persons entering work in electrotechnology and may be used in school-based vocational programs.

Licensing/Regulatory Information

1.2) License to practice

The skills and knowledge described in this unit do not require a license to practice in the workplace. However practice in this unit is subject to regulations directly related to occupational health and safe and contracts of training such as new apprenticeships.

Pre-Requisites

Prerequisite Unit(s) 2)

2.1) Competencies

There are no prerequisite competencies for this unit.

Employability Skills Information

Employability Skills 3)

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 unit of competency

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 for dismantling, assembling and fabrication work.	1.1 OHS procedures for a given work area are obtained and understood through established routines and procedures.
	1.2 Established OHS risk control measures and procedures in preparation for the work are followed.
	1.3 Safety hazard not previously identified are reported and advice on risk control measures is sought from the work supervisor.
	1.4 The nature of the work is obtained from documentation and from work supervisor to establish the scope of work to be undertaken.
	1.5 Advice is sought from the work supervisor to ensure the work is coordinated effectively with others.
	1.6 Materials required for the work are obtained in accordance with established routines and procedures.
	1.7 Tools, equipment and measuring devices needed to carry out the work are obtained and checked for correct operation and safety.
	1.8 Cutting tools such as drills and chisels are sharpened to suit the material on which they are to be used.
2 Dismantle and assemble electrotechnology apparatus.	2.1 Established OHS risk control measures and procedures for carrying out the work are followed.
	2.2 Circuits/machines/plant are checked as being isolated where necessary in strict accordance OHS requirements and procedures.
	2.3 Appropriate tools are selected and used correctly and safely in dismantling and assembling apparatus.
	2.4 Manufacturer apparatus dismantling and

ELEMENT**PERFORMANCE CRITERIA**

		assembling guides are used where applicable.
	2.5	Components are marked or tagged during the dismantling to help ensure correct and efficient reassembly.
	2.6	Dismantled components and parts are stored to protect them against loss or damage.
	2.7	Apparatus is dismantled and assembled efficiently without waste of materials and energy and/or damage to apparatus and the surrounding environment or services.
	2.8	Procedures for referring non-routine events to immediate supervisor for directions are followed.
	2.9	Routine quality checks are carried out in accordance with work instructions.
3	Fabricate electrotechnology components.	
	3.1	Established OHS risk control measures and procedures for carrying out the work are followed.
	3.2	Circuits/machines/plant are checked as being isolated where necessary in strict accordance OHS requirements and procedures.
	3.3	Appropriate tools are selected and used correctly and safely in fabricating components.
	3.4	Drawings and instruction for the fabrication of components are followed.
	3.5	Component dimensions are determined directly or by calculation from information given in job drawings and instructions.
	3.6	Components are fabricated efficiently without waste of materials and energy and/or damage to the surrounding environment or services.
	3.7	Procedures for referring non-routine events to immediate supervisor for directions are followed.
	3.8	Routine quality checks are carried out in

ELEMENT	PERFORMANCE CRITERIA
4 Complete work and report.	accordance with work instructions.
	4.1 OHS risk control work completion measures and procedures are followed.
	4.2 Work site is cleaned and made safe in accordance with established procedures.
	4.3 Work supervisor is notified of the completion of the work in accordance with established procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

7) 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 dismantling, assembling and fabricating electrotechnology components.

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

The extent of the essential knowledge and associated skills (EKAS) required is given in Volume 2 - Part 2.2 EKAS. It forms an integral part of this unit.

- 2.11.1 Hand tools
- 2.11.2.1 Power tools
- 2.11.4 Dismantling and assembling techniques
- 2.18.1 Occupational Health and Safety principles
- 2.20.1 Sustainable energy principles

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 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 accordance 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 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.

EVIDENCE GUIDE

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 shall be considered holistically. Each element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines - UEE07'. 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:
 - Dismantle, assemble and fabricate electrotechnology components as described in 8) and including:
 - A Dismantle and assemble an apparatus relevant to the discipline in which competency is sought and that requires selection and safe use of a variety of dismantling/assembling tools.
 - B Sharpening a drill bit for at least two different types of material.
 - C Fabricating a component that requires the selection

EVIDENCE GUIDE

and safe use of a variety of fabrication tools.

- D 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.

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, conditions for assessment 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 dismantling, assembling and fabricating electrotechnology components.

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:

UEENEEE005B Fix and secure equipment

EVIDENCE GUIDE

UEENEEE007B Use drawings, diagrams, schedules and manuals

The critical aspects of occupational health and safety covered in unit UEENEEE001B and other discipline specific occupational health and safety units shall be incorporated in relation to this unit.

Range Statement

RANGE STATEMENT

8) 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 relation to installation, fault finding, maintenance or development work functions in any of the following disciplines:

- Appliances
- Business equipment
- Computers
- Data Communications
- Electrical
- Electrical Machines
- Electronics
- Fire protection
- Instrumentation
- Refrigeration and Air Conditioning
- Renewable / sustainable energy, and
- Security technology

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

2.2) Literacy and numeracy skills

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
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2.2) Literacy and numeracy skills

Competency Field 5)

Electrotechnology