



**Australian Government**

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

# **LMFUP3014B Set up, operate and maintain CNC cutting machines**

**Revision Number: 1**

## LMFUP3014B Set up, operate and maintain CNC cutting machines

### Modification History

Not applicable.

### Unit Descriptor

<b>Unit descriptor</b>	This unit covers the competency to set up and operate CNC machines to cut material for upholstering furniture.
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### Application of the Unit

<b>Application of the unit</b>	
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### Licensing/Regulatory Information

Not applicable.

### Pre-Requisites

<b>Prerequisite units</b>	Nil	

### Employability Skills Information

<b>Employability skills</b>	This unit contains employability skills.
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## Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
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## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for work	1.1. Work instructions are used to determine job requirements including design, quality, materials, equipment and quantities 1.2. Workplace health and safety requirements, including personal protection needs, are observed throughout the work 1.3. Determine appropriate CNC cutting program and settings 1.4. Material for cutting is selected and inspected for appropriate quality 1.5. Machines, cutting tools and jigs are checked for safe and effective operation 1.6. Procedures are determined for minimising waste material and for maximising energy efficiency while completing the job 1.7. Safety equipment, including emergency stops, gauges, guards and controls are checked
2. Set up machines	2.1. CNC cutting program is set to job requirements 2.2. Machine settings and adjustments are made in accordance with job requirements and machine and tool manufacturer instructions 2.3. Trial runs are conducted to check machine operation and quality of finished work 2.4. Final adjustments are made to CNC programs and equipment according to workplace procedures
3. Operate CNC cutting machine	3.1. Machines are operated and monitored to ensure product quality and output 3.2. Waste quantities are checked and minimised 3.3. Problems with the required work, including machine operation/production, are identified and reported in accordance with workplace procedures 3.4. Any authorised changes in working procedures are followed 3.5. Daily routine lubrication and adjustments for the equipment are completed
4. Complete work and maintain equipment	4.1. Items that do not meet quality requirements are repaired, recycled or discarded according to workplace procedures 4.2. Material that can be reused is collected and stored 4.3. Waste and scrap are removed following workplace

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
	procedures 4.4. Equipment and work area are cleaned and inspected for serviceable condition in accordance with workplace procedures 4.5. Unserviceable equipment is tagged and faults identified in accordance with workplace procedures 4.6. Operator maintenance is performed on equipment and tooling is maintained in accordance with workplace procedures

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

#### Required skills

- collect, organise and understand information related to work orders, basic plans, and safety procedures
- communicate ideas and information to enable confirmation of work requirements and specifications, coordination of work with work supervisor, other workers and customers, and the reporting of work outcomes and problems
- plan and organise activities including the preparation and layout of the work area and the obtaining of equipment and materials to avoid any back tracking, workflow interruptions or wastage
- work with others and in a team by recognising dependencies and using cooperative approaches to optimise workflow and productivity
- use mathematical ideas and techniques to correctly complete measurements, calculate quantities and estimate material requirements
- use pre-checking and inspection techniques to anticipate cutting problems, avoid re-working and wastage
- use the workplace technology related to the operation of CNC cutting machines including programs, development of computer applications within the industry and precision measuring devices

#### Required knowledge

- workflow in relation to the operation of CNC machines
- identification of machines, processes and procedures, including maintenance requirements
- procedures for reporting materials, product or equipment faults
- quality requirements of components produced
- characteristics of materials used and uses of products produced
- workplace safety system requirements related to the operation of CNC machines

## Evidence Guide

### EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

#### Critical aspects of evidence

- Interpret work order and locate and apply relevant information to set up, operate, adjust, monitor and maintain equipment used to produce components for upholstered furniture
- Apply safe handling requirements for equipment, products and materials, including use of personal protective equipment, safety and environmental protection equipment
- Identify and operate CNC cutting machines including the use of safety cut outs and guards
- Follow work instructions, operating procedures and inspection practices to:
  - minimise the risk of injury to self and others
  - prevent damage to goods, equipment and products
  - maintain required production output and product quality
- As a minimum:
  - set up and program machine for the cutting task
  - load fabric
  - operate machine to cut components for a chair
- Work effectively with others
- Modify activities to cater for variations in workplace contexts and environment

#### Resource implications

CNC cutting machines, standard operating procedures, unprocessed materials and appropriate work area.

#### Method of assessment

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Assessment should be by direct observation of tasks and questioning on underpinning knowledge.

Assessment should be conducted over time and generally be in conjunction with assessment of other units of competency which together form a part of the job role.

#### Context of assessment

Assessment may occur on the job or in a workplace simulated facility with relevant CNC equipment,

<b>EVIDENCE GUIDE</b>
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	materials, work instructions and deadlines.
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## Range Statement

### RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

#### Unit context

- This unit covers work involved in the set up, operation, adjustment, monitoring and maintenance of computer numerically controlled (CNC) machines used in the cutting of upholstery materials
- Workplace health and safety requirements may include OHS legislation, standards, material safety management systems and safe operating procedures
- Work requires individuals to demonstrate some discretion, judgement and problem solving skills in the set up and operation of machines
- Work is carried out in accordance with legislative obligations, environment legislation, manual handling procedures and relevant regulations and organisation insurance requirements

#### CNC machines

- CNC machines used in the cutting of upholstery materials include, but are not limited to:
- fabric cutting machines
- leather cutting machines

#### Upholstery materials may include but are not limited to:

- fabrics and leather

#### Personal protective equipment

Personal protective equipment is to include that prescribed under legislation, regulations and enterprise policies and practices. It may include:

- safety glasses/goggles
- hair nets
- ear muffs/plugs
- gloves
- footwear
- protective clothing

**RANGE STATEMENT**

<b>Information and procedures</b>	<ul style="list-style-type: none"> <li>• Manufacturer specifications and operational procedures</li> <li>• Workplace procedures relating to the setting and operation of machines</li> <li>• Work instructions, including job sheets, cutting lists, programs, plans, drawings and designs</li> <li>• Workplace procedures relating to reporting and communication</li> </ul>
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**Unit Sector(s)**

<b>Unit sector</b>	Upholstery
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**Competency field**

<b>Competency field</b>	
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**Co-requisite units**

<b>Co-requisite units</b>		