



**Australian Government**

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

# **LMFFM3026B Set up, operate and maintain mechanical wood turning lathes**

**Revision Number: 1**

## LMFFM3026B Set up, operate and maintain mechanical wood turning lathes

### Modification History

Not applicable.

### Unit Descriptor

<b>Unit descriptor</b>	This unit covers the competency to set up, operate and maintain mechanical wood turning lathes used in the production of furniture
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### Application of the Unit

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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. Material for turning is selected and inspected for quality 1.4. Machines, cutting tools and templates are identified and checked for safe and effective operation 1.5. Procedures are determined for minimising waste material 1.6. Procedures are identified for maximising energy efficiency while completing the job
2. Set up machines	2.1. Machine settings and adjustments are made in accordance with job requirements and machine and tool manufacturer instructions 2.2. Trial runs are conducted to check machine operation, accuracy and quality of finished work 2.3. Necessary adjustments are made to machine settings
3. Operate machines	3.1. Machine start-up procedure is carried out in accordance with manufacturers' instructions 3.2. Material is fed into machine in accordance with manufacturers' instructions, tooling requirements, safe handling procedures and standard workplace operating procedures 3.3. Machine is operated in accordance with its designed capacity and purpose, and to manufacturers' recommendations 3.4. Machine operation is monitored to ensure product quality and output 3.5. Waste quantities are checked and minimised 3.6. Items that do not meet quality requirements are repaired, recycled or discarded according to workplace procedures 3.7. Problems with the required work and/or the operation of the machine are identified and reported to appropriate persons
4. Clean up work area and maintain	4.1. Material that can be reused is collected and stored 4.2. Waste and scrap are removed following workplace

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
equipment	procedures 4.3. Equipment and work area are cleaned and inspected for serviceable condition in accordance with workplace procedures 4.4. Unserviceable equipment is tagged and faults identified in accordance with workplace 4.5. Operator maintenance is completed in accordance with manufacturers' specifications and site 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 lathe operations, work orders, plans and safety procedures
- communicate ideas and information to enable confirmation of work requirements and specifications, coordination of work with site supervisor, other workers and customers, and the reporting of work outcomes and problems
- plan and organise activities, including the preparation and layout of the worksite 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 area and estimate material requirements
- use pre-checking and inspection techniques to anticipate set-up, operating and maintenance problems, avoid reworking and avoid wastage
- use the limited workplace technology related to lathe operations, including tools, equipment, calculators and measuring devices

#### Required knowledge

- the types, characteristics, uses and limitations of lathes
- characteristics of materials and uses of products produced
- workplace guidelines regarding acceptable tolerance levels
- workplace safety policies and procedures
- procedures for reporting machinery faults and material defects

## 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
- Apply safe handling requirements for equipment, products and materials, including use of personal protective equipment
- Read and interpret cutting lists and job specifications to prepare for work
- Identify materials used in the work process
- Follow work instructions, operating procedures and inspection processes to:
  - minimise the risk of injury to self or others
  - prevent damage to goods, equipment and products
  - maintain required production output and product quality
- Identify, set up, operate and maintain at least two different lathes, including the use of safety cut-outs and guards, to complete the following:
  - off-hand grind a range of cutters
  - manufacture and apply a template
  - complete a minimum of two detailed turnings which are to include fillets, beads, covers and square shoulder
- Conduct operator maintenance on the lathes
- Work effectively with others
- Modify activities to cater for variations in workplace context and environment

#### Resource Implications

Access to the lathes as identified in the Range Statement, standard operating procedures, and unprocessed materials.

#### 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 may be

<b>EVIDENCE GUIDE</b>	
	in conjunction with assessment of other units of competency.
<b>Context of Assessment</b>	Assessment may occur on the job or in a workplace simulated facility with relevant process equipment, materials, work instructions and deadlines.



## Range Statement

<b>RANGE STATEMENT</b>	
<p>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.</p>	
<b>Lathes are to include:</b>	<ul style="list-style-type: none"> <li>• two of fixed knife</li> <li>• rotary knife and copying lathe</li> </ul>
<b>Unit scope</b>	Work involves reading the plans and specifications, the manufacture of templates, the free-hand grinding of cutters, the application of cutting tools and the set-up and operation of lathes to produce turned components
<b>Unit context</b>	<ul style="list-style-type: none"> <li>• OH&amp;S requirements include legislation, building codes, material safety management systems, hazardous substances and dangerous goods code and local safe operating procedures</li> <li>• Work is carried out in accordance with legislative obligations, environmental legislation, relevant health regulations, manual handling procedures and organisation insurance requirements</li> <li>• Work requires individuals to demonstrate some discretion, judgement and problem solving skills in the set up and operation of machines</li> <li>• Competency may be demonstrated in workplaces involved in the manufacture of solid timber furniture, domestic furniture, commercial furniture, kitchen and bathroom cabinets and/or furniture components</li> </ul>
<b>Tools are to include machine-specific tools and may include:</b>	<ul style="list-style-type: none"> <li>• tension wrench</li> <li>• pedestal grinder or bench grinder</li> </ul>
<b>Personal protective equipment</b>	Personal protective equipment is to include that prescribed under legislation, regulations and enterprise policies and practices
<b>Information and procedures</b>	<ul style="list-style-type: none"> <li>• Workplace procedures relating to the use of tools and equipment</li> </ul>

**RANGE STATEMENT**

	<ul style="list-style-type: none"> <li>• Work instructions, including job sheets, cutting lists, plans, drawings and designs</li> <li>• Workplace procedures relating to reporting and communication</li> <li>• Manufacturers' specifications and operational procedures</li> </ul>
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**Unit Sector(s)**

<b>Unit sector</b>	Furniture Making
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**Competency field**

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

<b>Co-requisite units</b>		