



Australian Government

MSFFM3021 Set up, operate and maintain computer numerically controlled (CNC) sizing machines

Release: 1

MSFFM3021 Set up, operate and maintain computer numerically controlled (CNC) sizing machines

Modification History

Release 1 - New unit of competency

Application

This unit of competency covers setting up, operating and maintaining CNC sizing machines to produce furniture or components.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Competency Field

Unit Sector

Furniture Making

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Prepare for work	1.1	Work instructions are used to determine job requirements, including design, quality, materials, equipment and quantities
		1.2	Work health and safety (WHS) requirements, including personal protection needs, are observed throughout the work
		1.3	Material for machining is selected and inspected for appropriate quality
		1.4	Procedures are determined for minimising waste material
		1.5	Procedures are identified for maximising energy efficiency while completing the job
2	Set up machines	2.1	CNC program is set to job requirements

- 2.2 Safety equipment, including emergency stops, gauges, guards and controls are checked
 - 2.3 Machine settings and adjustments are made in accordance with job requirements and machine and tool manufacturer instructions
 - 2.4 Machines, cutting tools and jigs are checked for safe and effective operation
 - 2.5 Trial runs are conducted to check machine operation and quality of finished work
 - 2.6 Final adjustments are made to CNC programs and equipment according to workplace procedures
- 3 Operate machines
 - 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 are identified and reported to appropriate persons
 - 3.4 Items that do not meet quality requirements are repaired, recycled or discarded according to workplace procedures
 - 3.5 Any authorised changes in working procedures are followed
- 4 Finalise operation and maintain equipment
 - 4.1 Work area is cleaned, hand and/or power tools and equipment are cleaned, maintained and stored in accordance with workplace procedures
 - 4.2 Machinery is cleaned and left in a safe mode
 - 4.3 Faulty and/or defective equipment is tagged and reported in accordance with workplace practices
 - 4.4 Unused hardware is collected and stored for re-use or disposal following workplace procedures
 - 4.5 Waste and scrap materials are dealt with following workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency. Detail on appropriate performance levels for each furnishing unit of competency in reading, writing, oral communication and numeracy utilising the Australian Core Skills Framework (ACSF) are provided in the Furnishing Training Package Implementation Guide.

Range of Conditions

Specifies different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Range is restricted to essential operating conditions and any other variables essential to the work environment.

CNC sizing machines include:

- CNC beam saws
- double end profiling machines

Unit scope includes:

computer programming skills
reading and interpreting drawings
stock control
setting cutting speeds
computer-aided machining operations
saw and tool maintenance

Materials to be sized include:

- solid timber
- manufactured board
- laminate
- solid synthetic materials and plastics

Unit context includes:

- WHS requirements, including legislation, building codes, material safety management systems, hazardous substances and dangerous goods code, and local safe operating procedures
- work is carried out in accordance with legislative obligations, environmental legislation, relevant health regulations, manual handling procedures and organisation insurance requirements
- work requires individuals to demonstrate some discretion, judgement and problem solving in the set up and operation of machines
- 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

Tools include:

- machine-specific tools
- screwdrivers
- hammers
- spanners

Personal protective equipment includes:

- that prescribed under legislation, regulations and enterprise policies and practices

Information and procedures include:

- workplace procedures relating to the use of tools and equipment
- work instructions, including job sheets, cutting lists, plans, drawings and designs
- workplace procedures relating to reporting and communication
- manufacturer specifications and operational procedures

Unit Mapping Information

Supersedes and is equivalent to LMFFM3030B Set up, operate and maintain CNC sizing machines.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73>

Assessment Requirements for MSFFM3021 Set up, operate and maintain computer numerically controlled (CNC) sizing machines

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Performance Evidence

- Locate, interpret and apply relevant information
- Apply safe handling requirements for equipment, products and materials, including use of personal protective equipment
- Identify materials used in the work process
- Follow work instructions, operating procedures and inspection practices to:
 - minimise the risk of injury to self or others
 - prevent damage to goods, equipment or products
 - maintain required production output and product quality
- Identify, set up and operate CNC sizing equipment, including the use of safety cut-outs and guards, to produce a range of complex cutting patterns
- Conduct operator maintenance on the machine and related equipment
- Use mathematical ideas and techniques to correctly complete measurements, calculate area and estimate material requirements
- Communicate ideas and information to enable confirmation of work requirements and specifications and the reporting of work outcomes and problems, interpret basic plans and follow safety procedures
- Minimise wastage of resources, including materials, time and money
- Work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity

Knowledge Evidence

- Types, characteristics, uses and limitations of CNC sizing machines
- CNC theory, practices and techniques
- Characteristics of materials used and uses of products produced
- Work flow processes
- Procedures for reporting materials, product or equipment faults

Assessment Conditions

- Assessors must:
 - hold training and assessment competencies as determined by the National Skills Standards Council (NSSC) or its successors

- have vocational competency in the furnishing industry at least to the level being assessed with broad industry knowledge and experience, usually combined with a relevant industry qualification
- be familiar with the current skills and knowledge used and have relevant, current experience in the furnishing industry.
- Assessment methods must confirm consistency of performance over time rather than a single assessment event and in a range of workplace relevant contexts.
- Assessment must be by observation of relevant tasks with questioning on underpinning knowledge and, where applicable, multimedia evidence, supervisor's reports, projects and work samples.
- Assessment is to be conducted on single units of competency or in conjunction with other related units of competency. Foundation skills are integral to competent performance in the unit and should not be assessed separately.
- Assessment must occur on the job or in a workplace simulated facility with relevant process, equipment, materials, work instructions and deadlines.
- Access is required to CNC controlled equipment, standard operating procedures and unprocessed materials.

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