



Australian Government

Department of Education, Employment and Workplace Relations

LMFFM3033B Construct jigs and fixtures

Revision Number: 1

LMFFM3033B Construct jigs and fixtures

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the competency to prepare and construct jigs and fixtures to produce furniture components
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Application of the Unit

Application of the unit	
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	Nil	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	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.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify the purpose of the jig or fixture	1.1. Purpose of the jig or fixture and the equipment it is to be used on is established 1.2. Proposed service life of jig or fixture is established 1.3. Tolerances allowed are identified 1.4. Materials for jig construction are established 1.5. Quality requirements for each stage of the construction process are identified
2. Plan jig or fixture construction	2.1. Plan of proposed jig or fixture is produced 2.2. Approval of design is gained through workplace procedures 2.3. Steps or stages in production are planned, noting check points for measurements and tests
3. Collect materials and equipment	3.1. Workplace health and safety requirements, including personal protection needs, are observed throughout the work 3.2. Sufficient materials to complete the project are assembled ready for use 3.3. Suitable work area is selected 3.4. Hand and/or power tools are identified and checked for serviceability and assembled in work area 3.5. Appropriate equipment required is identified and checked for serviceability
4. Construct the jig or fixture	4.1. Production plan is followed to construct the jig or fixture 4.2. Tools and equipment are used in accordance with workplace procedures 4.3. Quality checks are conducted at the identified points 4.4. Modifications are identified and recommended within workplace procedures 4.5. Modifications to the plan are documented and followed 4.6. Jig or fixture is checked for fitness for purpose
5. Clean up work area and maintain equipment	5.1. Any faulty and/or defective equipment is isolated and reported to appropriate persons 5.2. Material which can be reused is collected and stored 5.3. Waste and scrap are removed following workplace procedures 5.4. All tools, equipment and personal protective equipment are cleaned, maintained and appropriately

ELEMENT	PERFORMANCE CRITERIA
	stored 5.5. Work area is cleaned in accordance with workplace procedures

Required Skills and Knowledge

Required knowledge
<ul style="list-style-type: none">• types, characteristics, uses and limitations of jigs and fixtures• criteria for selecting material for use in jigs and fixtures• requirements for cutting, shaping and joining materials• identification of equipment, processes and procedures• workflow in relation to the use of jigs and fixtures

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 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, tools, equipment or products
 - maintain required production output and product quality
- The selection of materials and the construction of a minimum of three different types of jigs/fixtures, including one for a shaping machine and one which is adjustable
- Work effectively with others
- Modify activities to cater for variations in workplace contexts and environment

Resource Implications

Job context, materials and equipment for jig or fixture construction.

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 in conjunction with assessment of other units of competency.

Context of Assessment

Assessment may occur on the job or in a workplace simulated facility with relevant process equipment, materials, work instructions and deadlines.

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.

Machines for which jigs and fixtures are made may include, but are not limited to:

- band saws
- cross cut saws
- jig saws
- mitre saws
- panel and rip saws
- belt sanders
- panel planers
- surface planers
- horizontal borers
- vertical drill presses
- mortisers
- tenoners
- spindle moulders
- overhead and inverted pin routing machines

The uses for jigs and fixtures may include, but are not limited to:

- holding
- shaping
- drilling
- cutting
- routing

Jigs and fixtures are used in the production of, but are not limited to:

- chair legs
- shaping curved components
- end panels
- trenching
- grooving

Tools and equipment may include, but are not limited to:

- measuring tapes or rulers
- hammers
- mallets
- squares
- bevels
- chisels
- planes
- hand saws

RANGE STATEMENT	
	<ul style="list-style-type: none"> • power saws • power drills/screwdrivers • pneumatic tools • clamps • screwdrivers • pincers
Unit context	<ul style="list-style-type: none"> • OH&S requirements include 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 skills 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
Material used in the construction of jigs and fixtures may include, but is not limited to:	<ul style="list-style-type: none"> • solid timber • manufactured board • metal • plastics • synthetic solids • laminates and non-ferrous materials
Personal protective equipment	Personal protective equipment is to include that prescribed under legislation, regulations and enterprise policies and practices
Information and procedures	<ul style="list-style-type: none"> • 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 • Manufacturers' specifications and operational procedures

Unit Sector(s)

Unit sector	Furniture Making
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		