

<b>Training Package</b>	Metal and Engineering (MEM05)			<b>HSC Requirements and Advice</b>
<b>Title</b>	<b>Perform general woodworking machine operations</b>			
<b>Unit code</b>	<b>Competency field</b>	<b>Band</b>	<b>Unit weight</b>	<b>HSC Indicative Hours</b>
<b>MEM04018B</b>	Casting & moulding	A	4	<b>15</b>

<b>Unit descriptor</b>	This unit covers setting up and operating wood working machines used by engineering pattern makers and marine fabricators.			
<b>Prerequisites</b>	MEM12023A Perform engineering measurements		MEM18001C Use hand tools	
<b>Application of the competency</b>	This unit applies to setting up and using woodworking machines for engineering pattern making and marine vessel manufacture.			
<b>Related units</b>	<p>This unit does not cover the use of woodworking machines for furniture and building construction.</p> <p>For hand held/power tools, Unit MEM18002B (Use power tools/hand held operations) should be selected.</p> <p>If the interpretation of technical drawings is required Unit MEM09002B (Interpret technical drawings) should be selected.</p>			

### Evidence Guide

The evidence guide specifies the evidence required to demonstrate achievement in the unit of competency as a whole. It must be read in conjunction with the unit descriptor, performance criteria, range statement and the assessment guidelines for the Metal and Engineering Training Package.

<b>Overview of assessment requirements</b>	<b>Context of assessment</b>	<b>Interdependent assessment</b>	<b>Method of assessment</b>
A person who demonstrates competency in this unit must be able to set up and operate wood working machines. Competency in this unit cannot be claimed until all prerequisites have been satisfied.	This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.	This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with performing general woodworking machine operations or other units requiring the exercise of the skills and knowledge covered by this unit.	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes,

			standards, manuals and reference materials.
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Evidence Guide cont/d			HSC Requirements and Advice
Consistency of performance	Required skills	Required knowledge	Key Terms and Concepts
Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.	<p>Look for evidence that confirms skills in:</p> <ul style="list-style-type: none"> <li>determining job requirements from job instructions, specifications, standard operating procedures and other applicable reference documents</li> <li>checking and clarifying task-related information</li> <li>selecting and setting machines</li> <li>setting guards and stops</li> <li>handling, machining and storing timber and wood</li> <li>measuring materials and components to specified sizes/tolerances</li> <li>checking for conformance to specifications.</li> </ul>	<p>Look for evidence that confirms knowledge of:</p> <ul style="list-style-type: none"> <li>application and use of general wood working machines</li> <li>interpreting instructions, drawings or sketches</li> <li>numerical operations and calculations within the scope of this unit</li> <li>machine settings including installation of blades and cutters, clamping for the job, including adjustments for sizing and speed</li> <li>the range of tools/cutters for different purposes</li> <li>the consequences of incorrect set or cutting angles</li> <li>the consequences of tool holders, tools and cutters etc., being incorrectly secured</li> <li>the consequences of not using guards etc.</li> <li>timber product knowledge including features, characteristics and applications</li> <li>methods of optimising quality of appearance, retention of shape, strength, and the minimisation of waste</li> <li>use and application of personal protective equipment</li> <li>safe work practices and procedures</li> <li>hazards and control measures associated with general woodworking machine operations.</li> </ul>	<ul style="list-style-type: none"> <li>application and working knowledge of woodworking machines</li> <li>communication</li> <li>compliance tests/checks</li> <li>guards and stops</li> <li>job requirements</li> <li>machine settings</li> <li>measuring materials and components</li> <li>methods and techniques to sharpen cutting tools</li> <li>minimise waste</li> <li>non-conformance to specifications</li> <li>numerical operations and calculations</li> <li>optimising quality of materials</li> <li>personal protective equipment (PPE)</li> <li>position and secure materials</li> <li>predetermined finish</li> <li>safe work practices and procedures</li> <li>select and install tools and cutters</li> <li>selection of woodworking machines</li> <li>set-up and operate woodworking machines</li> <li>specifications</li> <li>standard operating procedures</li> <li>timber product knowledge</li> <li>tolerances</li> <li>work instructions and procedures.</li> </ul>

Elements	Performance criteria	Range Statement	HSC Requirements and Advice
1 Determine <i>job requirements</i>	1.1 Job instructions and specifications are interpreted and understood.	<p>The range statement provides information about the context in which the unit of competency is carried out. The variables [in bold] and scope [dot points] cater for different work requirements, work practices and knowledge between States, Territories and the Commonwealth, and between organisations and workplaces. The range statement relates to the unit as a whole and provides a focus for assessment. Text in italics in the performance criteria is explained here.</p> <p>The following variables may be present and <i>may include</i>, but are not limited to, the examples listed under the scope. All work is undertaken to relevant legislative requirements, where applicable.</p> <p><b>Job requirements</b></p> <ul style="list-style-type: none"> <li>• sizing, appearance in terms of figure, grain or surface finish, allowance of imperfections such as twist, bow, bend, sloping grain, knots, shakes, gum veins etc.</li> </ul>	<p><b>Learning experiences for the HSC must address:</b></p> <p>A range of sources for work instructions and procedures including:</p> <ul style="list-style-type: none"> <li>• work schedules</li> <li>• drawings/job card/sheet/plans/specifications</li> <li>• standard operating procedures (SOP)</li> <li>• standard operation sheets</li> <li>• Material Safety Data Sheets (MSDS)</li> <li>• diagrams/sketches</li> <li>• regulations/legislation</li> <li>• manufacturing workplace guidelines, policies and procedures</li> <li>• Australian Standards.</li> </ul> <p>An awareness of various modes of communication to receive work instructions including:</p> <ul style="list-style-type: none"> <li>• verbal <ul style="list-style-type: none"> <li>- face to face (supervisor to employee)</li> <li>- telephone/mobile phone</li> <li>- workplace meetings</li> </ul> </li> <li>• written communication <ul style="list-style-type: none"> <li>- work plans</li> <li>- drawings</li> <li>- memos/messages</li> <li>- job descriptions/statements</li> <li>- workplace forms</li> <li>- rosters</li> </ul> </li> <li>• non-verbal <ul style="list-style-type: none"> <li>- signage</li> <li>- diagrams.</li> </ul> </li> </ul> <p>Safe work practices and procedures.</p> <p>Timber product knowledge including:</p> <ul style="list-style-type: none"> <li>• features</li> <li>• characteristics</li> <li>• applications</li> <li>• handling</li> <li>• storage.</li> </ul>
			Numerical operations and calculations within the

Elements	Performance criteria	Range Statement	HSC Requirements and Advice
	1.2 Appropriate <i>woodworking machine</i> is selected to meet specifications.	<b>Woodworking machines</b> <ul style="list-style-type: none"> <li>band saws, buzzers, thicknesses, disk sander, bobbin sander, pattern mill, wood lathe, pedestal router and drill.</li> </ul>	scope of the unit of competency.  Measuring materials and components to specified sizes and tolerances.  <b>Learning experiences for the HSC must address:</b>  Application and working knowledge of a range of general woodworking machines.  Consideration/s for the selection of wood machines Including: <ul style="list-style-type: none"> <li>skills/training</li> <li>time</li> <li>cost</li> <li>occupational health and safety (OHS) requirements</li> <li>appropriateness for purpose.</li> </ul>
2 <i>Set up</i> woodworking machines	2.1 Tools/cutters are selected appropriate to task requirements.	<b>Set up</b> <ul style="list-style-type: none"> <li>installation of the blades and cutters, settings for the job, including adjustments for sizing and speed.</li> </ul>	<b>Learning experiences for the HSC must address:</b>  Correct use/application of a range of tools/cutters for general wood machining.
	2.2 <i>Cutting tools</i> are sharpened and/or shaped to specification.	<b>Cutting tools</b> <ul style="list-style-type: none"> <li>blades, router bits.</li> </ul> <b>Guards/stops</b> <ul style="list-style-type: none"> <li>fixed and variable guards and stops.</li> </ul>	<b>Learning experiences for the HSC must address:</b>  An awareness of how worn/damaged cutting tools can be identified including: <ul style="list-style-type: none"> <li>visual checks</li> <li>dimensional checks.</li> </ul> Knowledge of cutting-tool sharpening methods and techniques to correct geometry.  SOP for tool sharpening equipment.  An awareness of: <ul style="list-style-type: none"> <li>the benefits of using correctly sharpened tools</li> <li>the consequences of incorrect tool sharpening.</li> </ul>

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	2.3 Tools/cutters are correctly installed using standard operating procedures.		<p><b>Learning experiences for the HSC must address:</b></p> <p>An awareness of the consequences of:</p> <ul style="list-style-type: none"> <li>• incorrect installation of tools/cutters and tool holders</li> <li>• incorrect cutting angles.</li> </ul>
	2.4 <i>Guards/stops</i> are set and adjusted as required.		<p><b>Learning experiences for the HSC must address:</b></p> <p>An awareness of the consequences of not using guards/stops.</p>
3 Operate woodworking machines	3.1 Material to be machined is positioned and secured effectively.		<p><b>Learning experiences for the HSC must address:</b></p> <p>Understanding of the importance of securing work pieces prior to machining.</p> <p>Knowledge of machine settings including:</p> <ul style="list-style-type: none"> <li>• installation of blades and cutters</li> <li>• clamping/mounting materials</li> <li>• alignment</li> <li>• adjustment for size and speed</li> <li>• start up and shut down.</li> </ul>
	3.2 Materials are machined to specification using standard operating procedures.		<p><b>Learning experiences for the HSC must address:</b></p> <p>Safe work practices for using machine, tools and equipment including:</p> <ul style="list-style-type: none"> <li>• following SOP and manufacturer’s specifications before, during and after use</li> <li>• risk management (identifying hazards and implementing control measures)</li> <li>• correct manual handling</li> <li>• safe handling, application and storage of hazardous substances</li> <li>• appropriate use of personal protective equipment (PPE)</li> <li>• regular servicing and maintenance of tools and equipment</li> <li>• selection of appropriate tool for use</li> <li>• working with electricity in a safe manner</li> <li>• adequate ventilation</li> <li>• attaching appropriate safety guards where required.</li> </ul>

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	3.3 Material use is optimised and waste is minimised.		<p>Use and application of a range of PPE including:</p> <ul style="list-style-type: none"> <li>• footwear</li> <li>• head protection</li> <li>• gloves</li> <li>• protective clothing</li> <li>• respirator</li> <li>• face mask/shield</li> <li>• hearing protection</li> <li>• eye protection.</li> </ul> <p>Importance of correct fitting PPE.</p> <p><b>Learning experiences for the HSC must address:</b></p> <p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• methods for optimising quality of : <ul style="list-style-type: none"> <li>- appearance</li> <li>- shape</li> <li>- strength</li> </ul> </li> <li>• strategies to minimise waste.</li> </ul>
4 Check finished component	4.1 Machined component is checked against specifications and predetermined finish.		<p><b>Learning experiences for the HSC must address:</b></p> <p>Knowledge of compliance tests/checks to be undertaken to ensure quality assurance of finished product.</p> <p>SOP for non-conformance of machined component to specifications.</p>