

**Modification history**

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 5.0.

FWPCOT3XXX	Sharpen cutters in head using a straight knife grinder
<b>Application</b>	<p>This unit of competency describes the skills and knowledge required to sharpen cutters in head using a straight knife grinder. Straight cutters are used on a computer numerically controlled (CNC) or semi-automated multi-headed moulder/planer to produce timber with simple profiles such as DAR (dressed all round) boards, either with a square edge or pencil round edge, or skip-dressed boards. Straight cutters are also used on veneer cutting machines and chippers.</p> <p>The unit applies to individuals who sharpen cutters in head on a straight knife grinder for use on a moulder/planer to produce timber with simple profiles or on a veneer cutting machine or chipper.</p> <p>All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.</p> <p>No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.</p>
<b>Prerequisite Unit</b>	Nil
<b>Unit Sector</b>	Common Technical

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for work	1.1 Review work order to determine job requirements and where required seek clarification from appropriate personnel 1.2 Identify and apply workplace health and safety requirements including the use of personal protective equipment, equipment lockout and safe manual handling techniques 1.3 Identify, assess and take actions to mitigate risks and hazards associated with sharpening cutters in head on a straight knife grinder 1.4 Identify and implement workplace procedures for minimising waste material and maximising energy efficiency 1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the work place 1.6 Obtain tools, equipment and testing devices needed for the work and check for correct operation and safety
2. Clean and check cutter head before sharpening	2.1 Clean cutter head according to workplace procedures 2.2 Check cutter head for faults and take remedial action according to workplace procedures 2.3 Check, and if required adjust, cutters for position in or on cutter head according to manufacturer specifications

<b>Elements</b>	<b>Performance Criteria</b>
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
3. Prepare grinder	3.1 Clean grinder and work area according to workplace procedures 3.2 Select grinding wheel and grinding speed according to workplace procedures 3.3 Check grinding wheel for faults and take remedial action according to workplace procedures 3.4 Fit grinding wheel and check grinder operation according to manufacturer and workplace procedures 3.5 Shape and dress grinding wheel according to manufacturer and workplace procedures 3.6 Set grinding settings according to workplace requirements and manufacturer specifications
4. Mount and adjust cutter head in the grinder	4.1 Lock cutter head to arbor according to manufacturer specifications 4.2 Set tool rest according to manufacturer specifications 4.3 Set wheel advance according to manufacturer specifications 4.4 Set traversing stops according to manufacturer specifications 4.5 Adjust clearance between grinding wheel and cutters according to manufacturer specifications 4.6 Check and top up coolant level according to manufacturer specifications
5. Sharpen cutters in head	5.1 Check operation of grinder for problems after the first pass according to workplace procedures 5.2 Maintain coolant flow rate and cleanliness during wet grinding according to workplace procedures 5.3 Ground cutters until the specified edge and clearance angles are obtained across all cutters 5.4 Ground cutter edges to a constant straight line 5.5 Sharpen cutter to specified angle, within permitted tolerances for concentricity and weight, and check that cutter is free from defects 5.6 Hone cutters and remove burrs according to workplace procedures 5.7 Clean grinder after sharpening according to workplace procedures
6. Store cutter head	6.1 Drain cutter head, if applicable 6.2 Store cutter head according to workplace procedures 6.3 Record and report work outcomes, equipment faults and maintenance requirements to appropriate personnel

<b>Foundation Skills</b>	
<i>This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.</i>	
<b>Skill</b>	<b>Description</b>
Numeracy	<ul style="list-style-type: none"> <li>Measure finished dimensions against specifications and allowable tolerances</li> </ul>
Navigate the world of work	<ul style="list-style-type: none"> <li>Understand main tasks, responsibilities and boundaries of own role</li> </ul>
Interact with others	<ul style="list-style-type: none"> <li>Use modes of communication suitable to purpose to confirm and clarify understanding</li> </ul>
Get the work done	<ul style="list-style-type: none"> <li>Recognise and respond to routine problems</li> </ul>

<b>Unit Mapping Information</b>			
<b>Code and title current version</b>	<b>Code and title previous version</b>	<b>Comments</b>	<b>Equivalence status</b>
FWPCOT3XXX Sharpen cutters in head using a straight knife grinder	FWPCOT3210 Sharpen cutting tools	The original unit has been replaced by three units including this unit to define specific skills required of operators for using different methods and equipment for sharpening different types of cutters to produce timber with simple and complex profiles.	Non-equivalent

<b>Links</b>	Companion Volumes, including Implementation Guides, are available at VETNet: <a href="https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47">https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47</a>
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<b>TITLE</b>	<b>Assessment requirements for FWPCOT3XXX Sharpen cutters in head using a straight knife grinder</b>
<b>Performance Evidence</b>	
<p>An individual demonstrating competency must satisfy all the elements and performance criteria in this unit. There must be evidence that, on at least one occasion the individual has sharpened cutters in head using a straight knife grinder and has:</p> <ul style="list-style-type: none"> <li>• worked safely including following workplace health and safety procedures</li> <li>• cleaned and checked cutter head prior to sharpening</li> <li>• prepared the grinder</li> <li>• mounted and adjusted cutter head in grinder</li> <li>• stored cutter head after sharpening</li> <li>• completed workplace reports.</li> </ul>	

<b>Knowledge Evidence</b>	
<p>An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of</p> <ul style="list-style-type: none"> <li>• purpose, features, operating parameters, components and operation of straight knife grinders used to sharpen cutters in head</li> <li>• equipment used in setting up and running straight knife grinders</li> <li>• components of cutter head</li> <li>• types of cutters used to produce simple profiles</li> <li>• types, effects and remedial action for dealing with cutter and cutter head faults: <ul style="list-style-type: none"> <li>• warp</li> <li>• cracks</li> <li>• chips</li> <li>• burns</li> <li>• delamination</li> <li>• raised spots</li> </ul> </li> <li>• types, effects and remedial action for dealing with grinding wheel faults: <ul style="list-style-type: none"> <li>• cracks</li> <li>• clogging</li> </ul> </li> <li>• effects of incorrect set-up of coolant flow, traversing stops, traversing speed, wheel advance, grinding angle</li> <li>• problems associated with operation of grinder: <ul style="list-style-type: none"> <li>• burning</li> <li>• incorrect grinding angle</li> <li>• incorrect cutter set-up</li> </ul> </li> <li>• defects in cutter edges after sharpening: <ul style="list-style-type: none"> <li>• burning</li> <li>• chipping</li> <li>• grinding marks</li> </ul> </li> <li>• procedures for: <ul style="list-style-type: none"> <li>• cleaning cutter head</li> <li>• preparing grinder</li> <li>• mounting and adjusting cutter head in grinder</li> <li>• grinding and honing cutters in-head</li> <li>• storing cutter head</li> </ul> </li> <li>• tolerances for concentricity and weight</li> <li>• types and applications of simple profiles: <ul style="list-style-type: none"> <li>• DAR (dressed all round) boards, either with a square edge or pencil round edge</li> <li>• skip-dressed boards</li> </ul> </li> <li>• types and effects of hazards and control measures associated with using grinders: <ul style="list-style-type: none"> <li>• grinding wheel disintegration</li> <li>• loose grinding wheel</li> <li>• exposure to grinding coolant</li> </ul> </li> </ul>	

<b>Knowledge Evidence</b>	
<ul style="list-style-type: none"> <li>• workplace procedures specific to using straight knife grinders:             <ul style="list-style-type: none"> <li>• workplace health and safety with particular emphasis on equipment lockout, isolation procedures, machine guarding and use of personal protective equipment (PPE)</li> <li>• communication reporting lines</li> <li>• recording and reporting production outcomes, equipment faults and maintenance requirements.</li> <li>• environment protection legislation relating to sawmill operations.</li> </ul> </li> </ul>	
<b>Assessment Conditions</b>	
<p>Assessment of the skills in this unit of competency must take place under the following conditions:</p> <ul style="list-style-type: none"> <li>• physical conditions             <ul style="list-style-type: none"> <li>• skills must be demonstrated in a timber processing or manufacturing facility or an environment that accurately represents workplace conditions</li> </ul> </li> <li>• resources, equipment and materials:             <ul style="list-style-type: none"> <li>• straight knife grinder</li> <li>• cutters in head for simple profiles</li> <li>• tools for setting up straight knife grinder</li> <li>• PPE for sharpening cutters in head using a straight knife grinder</li> <li>• cutters</li> <li>• lubricant</li> <li>• coolant</li> </ul> </li> <li>• specifications:             <ul style="list-style-type: none"> <li>• template documents for recording work outcomes, equipment faults and maintenance requirements</li> <li>• manufacturer instructions for sharpening cutters in head using a straight knife grinder</li> <li>• work order with specific instructions for sharpening cutters in head using a straight knife grinder</li> <li>• workplace procedures for sharpening cutters in head using a straight knife grinder.</li> </ul> </li> </ul> <p>Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and / or standards.</p>	
<b>Links</b>	<p>Companion Volumes, including Implementation Guides, are available at VETNet:  <a href="https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47">https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47</a></p>