



Australian Government

FWPCOT3277 Sharpen cutters in head using a profile knife grinder

Release: 1

FWPCOT3277 Sharpen cutters in head using a profile knife grinder

Modification History

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

Application

This unit of competency describes the skills and knowledge required to sharpen cutters in head using a profile knife grinder.

The unit applies to individuals who sharpen cutters in head on a profile knife grinder for use on a moulder in a timber processing facility to produce timber with complex profiles such as tongue and groove flooring, lining board, shiplap, joinery profiles and other detailed mouldings.

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.

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

Pre-requisite Unit

Nil

Unit Sector

Common Technical (COT)

Elements and Performance Criteria

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, including cutter profile type, dimensions and tooling information, and, where required, seek clarification from appropriate personnel

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.2 Review workplace health and safety procedures, including the use of personal protective equipment, equipment lock-out and safe manual handling techniques 1.3 Identify, assess and take actions to mitigate risks and hazards associated with sharpening cutters in head using a profile knife grinder 1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency 1.5 Consult with appropriate personnel to ensure that work is coordinated effectively with others in the workplace 1.6 Obtain tools, equipment and testing devices needed for the work, and check for correct operation and safety 1.7 Select template for profile knife grinder according to cutter profile requirements
2. Clean and check cutter head before sharpening	2.1 Clean cutter head according to workplace procedures 2.2 Check cutters and cutter head for faults and take remedial action according to workplace procedures 2.3 Check, adjust and position cutters and cutter head according to manufacturer specifications
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 Shape and dress grinding wheel according to manufacturer and workplace procedures 3.5 Fit grinding wheel on its supporting arbor and check grinder operation according to manufacturer and workplace procedures 3.6 Set grinding angle and automatic feed according to manufacturer and workplace procedures 3.7 Check size and shape of the stylus for suitability for the cutter profile
4. Mount and adjust cutter head and template	4.1 Lock cutter head to arbor according to manufacturer specifications 4.2 Set dividing head and tool rest according to manufacturer

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
in the grinder	specifications 4.3 Mount template and adjust to cutters according to manufacturer specifications 4.4 Adjust clearance between grinding wheel and cutters according to manufacturer specifications 4.5 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 5.2 Maintain coolant flow rate and cleanliness during wet grinding to prevent the cutter from burning 5.3 Grind cutters until the specified edge and clearance angles are obtained across all cutters 5.4 Grind cutters to conform to the template 5.5 Sharpen cutter edges 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

Foundation Skills

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.

Skill	Description
Numeracy	Measures finished dimensions against specifications and allowable tolerances
Navigate the world of	Understands main tasks, responsibilities and boundaries of own

Skill	Description
work	role
Interact with others	• Uses modes of communication suitable to purpose to confirm and clarify understanding
Get the work done	• Recognises and responds to routine problems

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3277 Sharpen cutters in head using a profile 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	No equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPCOT3277 Sharpen cutters in head using a profile knife grinder

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Performance Evidence

An individual demonstrating competency must satisfy all of 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 profile knife grinder and has:

- followed work order and relevant workplace health and safety and environmental protection procedures
- selected template that met profile requirements
- cleaned and checked cutters and cutter head before sharpening
- prepared the grinder
- mounted and adjusted cutter head and template in the grinder
- stored cutter head after sharpening
- completed workplace reports.

Knowledge Evidence

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:

- purpose, features, operating parameters, components and operation of profile knife grinders used to sharpen cutters in head
- equipment used in setting up and running profile knife grinders
- purpose of template and specifications
- components of cutter head
- types of cutters used to produce complex profiles
- types, effects and remedial action for dealing with cutter and cutter head faults:
 - warp
 - cracks
 - chips
 - burns

- delamination
- raised spots
- types of grinder wheels for sharpening various cutter profiles
- types, effects and remedial action for dealing with grinding wheel faults:
 - cracks
 - clogging
- effects of an incorrect set-up of coolant flow, traversing stops, traversing speed, wheel advance, grinding angle
- problems associated with the operation of grinder:
 - burning
 - incorrect grinding angle
 - incorrect cutter set-up
- defects in cutter edges after sharpening:
 - burning
 - chipping
 - grinding marks
- procedures for:
 - cleaning cutters and cutter head
 - preparing grinder
 - mounting and adjusting cutter head and template in the grinder
 - grinding and honing cutters in head
 - storing cutter head
- cutting angles for specific wood species and desired finish
- tolerances for concentricity and weight
- types and applications of complex profiles:
 - tongue and groove flooring
 - lining board
 - shiplap
 - joinery profiles and other detailed mouldings
- types and effects of hazards and control measure associated with using grinders:
 - grinding wheel disintegration
 - loose grinding wheel
 - exposure to grinding coolant
- workplace procedures specific to using profile knife grinders:
 - workplace health and safety, with particular emphasis on equipment lock-out, isolation procedures, machine guarding and use of personal protective equipment (PPE)
 - communication reporting lines
 - recording and reporting production outcomes, equipment faults and maintenance requirements
 - environment protection legislation relating to sawmill operations.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a timber processing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - profile knife grinder
 - cutters in head for complex profiles
 - tools for setting up profile knife grinder
 - PPE for sharpening cutters in head using a profile knife grinder
 - coolant
- specifications:
 - template documents for recording work outcomes, equipment faults and maintenance requirements
 - manufacturer instructions for sharpening cutters in head using a profile knife grinder
 - work order with specific instructions for sharpening cutters in head using a profile knife grinder
 - workplace procedures for sharpening cutters in head using a profile knife grinder.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

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