



Australian Government

FWPSAW3233 Sharpen circular saw blades

Release: 1

FWPSAW3233 Sharpen circular saw blades

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 assess and sharpen circular saw blades with an automatic or manually controlled grinder.

The unit applies to individuals who sharpen circular saw blades used in a saw technician workshop or timber processing facility.

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

Sawmilling and Processing (SAW)

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 and, where required, seek clarification from appropriate personnel 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

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	associated with sharpening circular saw blades 1.4 Identify workplace environmental protection procedures for minimising and disposing of waste material, cleaning tools and equipment, and maximising energy efficiency 1.5 Select appropriate equipment for grinding, and check for safety and operational effectiveness according to manufacturer specifications
2. Assess saw blade condition and set up the grinder	2.1 Remove and replace saw blades from sawing equipment 2.2 Assess cutting performance of the blade and determine the need to replace or sharpen 2.3 Assess prior repairs and condition of teeth, set and straightness of blade 2.4 Select grinding machine with suitable wheel characteristics, diameter and thickness and dress and profile wheel to match saw blade profile requirements 2.5 Adjust grinding machine settings to suit required tooth profile geometry, blade set or kerf, blade thickness and diameter to manufacturer recommendations 2.6 Set up saw blade in the grinder with appropriate attachments for tooth pitch
3. Sharpen circular saw blade	3.1 Grind saw blade body before sharpening the tooth to maintain clearance 3.2 Grind tooth profiles to achieve required sharpness, surface finish and back clearance angle 3.3 Maintain tooth profile to industry standards 3.4 Keep variations in tooth height within industry or manufacturer tolerances for concentricity 3.5 Control wheel and saw hand feeds to minimise wear, avoid burn marks and maintain smooth surface finish 3.6 Identify damaged and exhausted circular saw blades and dispose of these according to workplace procedures and environmental protection practices 3.7 Clean the work area and equipment 3.8 Identify and record routine processing and equipment faults, and resolve or report 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	• Performs precise mathematical calculations to determine correct specifications for grinding teeth to angle, pitch, tooth height and gullet depth • Uses basic mathematical symbols and conventions in completing routine workplace reports
Navigate the world of work	• Understands main tasks, responsibilities and boundaries of own 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
FWPSAW3233 Sharpen circular saw blades	FWPSAW3208 Sharpen circular saws	Revised performance criteria and performance evidence to clarify tasks; minor updates to knowledge evidence; updated unit code and title for clarity and compliance	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 FWPSAW3233 Sharpen circular saw blades

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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:

- set up and operated a manually controlled grinder to sharpen one or both of the following types of circular saw blades:
 - circular crosscut blades
 - rip saw blades.

In doing the above job, the individual has:

- reviewed work order to determine job requirements
- followed relevant workplace health and safety and environmental protection procedures
- removed and replaced circular saw blades from the sawing equipment
- assessed cutting performance and determined need to replace or sharpen blades
- assessed condition of blade teeth, including:
 - sharpness of tooth cutting edges
 - angles within the tooth profile
 - tooth strength
 - damage to teeth
 - pitch
 - gullet depth
- sharpened circular saw blades according to workplace procedures
- cleaned work area and equipment
- identified routine processing and equipment faults, and resolved or reported to appropriate personnel.

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:

- basic knowledge of physics of sawing, including:
 - saw blade material and properties
 - impact of timber properties on saw blades
 - direction of cut
 - forces on a blade
 - heat removal
 - sawtooth configuration
- purpose, features and operation of saws for which circular saw blades are sharpened
- features and names of different parts of circular saw blades
- purpose, features and operation of tools and equipment used to sharpen circular saw blades:
 - gulleting and grinding machines
 - machine attachments
 - abrasive wheels
 - hand-held tools
- importance of sharpening and setting teeth and tension to match requirements for:
 - characteristics of various materials sawn
 - speed of the sawing process
 - direction of the sawing process
 - cutting angle for sawing
 - saw blade specifications
- methods for:
 - removing saw blades from equipment
 - assessing saw blade condition
 - maintaining clearance between the body and the tooth of a saw blade
 - sharpening blades to specified requirements
 - grinding teeth to a specified profile
 - maintaining concentricity of teeth
- tooth pitch and tooth angles at which blades are sharpened (blade geometry)
- range of speeds at which abrasive wheels can be operated without damaging saw blades
- risks and hazards and mitigation measures associated with sharpening circular saw blades
- procedures specific to sharpening circular saw blades:
 - workplace health and safety, with particular emphasis on equipment lock-out, the use of personal protective equipment (PPE) and safe manual handling techniques
 - communication reporting lines
 - recording and reporting of processing and equipment faults

- environmental protection practices applied to saw technician workshops and timber processing facilities:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a saw technician workshop, a timber processing facility or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - tools and equipment used to sharpen circular saw blades: gulleting and grinding machines, machine attachments, hand-held tools and abrasive wheels
 - saws for which circular saw blades are to be sharpened
 - one or more of the following types of circular saw blades to be sharpened: circular crosscut blades, rip saw blades
 - PPE suitable for sharpening circular saw blades
- specifications:
 - manufacturer instructions for use, repair and maintenance of equipment
 - work order with specific instructions for sharpening circular saw blades
 - template documents for recording operational problems and equipment faults
 - workplace procedures for sharpening circular saw blades.

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

Links

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<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>