



Australian Government

FWPSAW3220 Maintain wide band saw blades

Release: 2

FWPSAW3220 Maintain wide band saw blades

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 3.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 2.0.

Application

This unit of competency describes the outcomes required to level, tension, back-gauge, weld and replace teeth on wide band saw blades. Work is completed in a forest products factory setting.

The unit applies to job roles including Sawdoctor and Saw Repairer.

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

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing

Elements and Performance Criteria

Element	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions.</i>
1. Prepare for maintenance	1.1 Review work order and where required check with appropriate personnel. 1.2 Select appropriate repair, maintenance and personal protective equipment and check for operational effectiveness in line with manufacturer's recommendations.

	1.3 Plan maintenance process in line with work order.
2. Assess saw condition	2.1 Follow organisational safety procedures throughout all maintenance and repair processes. 2.2 Remove wide band and gang saws from machinery. 2.3 Handle saws to avoid damaging teeth. 2.4 Clean foreign material on blade surfaces for inspection. 2.5 Inspect saw to assess condition of teeth, tips and saw blade. 2.6 Check and mark teeth or tips requiring repair or replacement. 2.7 Declare saw unserviceable where hazardous defects are found. 2.8 Segregate and dispose of unserviceable saws in line with organisational procedures and environmental protection practices.
3. Level, tension and back-gauge saw blade	3.1 Assess and match ridges or lumps across and along saw on both sides of blade. 3.2 Use gauges and straight edges in both directions to test blade accuracy. 3.3 Remove ridges or lumps progressively through levelling and use stretcher or levelling rolls to flatten. 3.4 Localise stresses using controlled levelling or rolling patterns to avoid spring-back and re-occurrence of defects. 3.5 Check saw blade against required curvature using a gauge to identify tensioning requirements. 3.6 Obtain tension curvature across and along saw blade. 3.7 Check alignment of saw back against tolerances using a gauge; roll non-conforming areas to obtain required tolerance.
4. Repair teeth and blade cracks	4.1 Place saw blade in welding jig for heat application and welding activities. 4.2 Check amount of damaged tooth to be removed or crack to be repaired and mark weld line. 4.3 Remove metal to proposed line, prepare edge for welding and clean burn marks. 4.4 Apply heat and pressure to prepare worn, broken or ground surface for metal build up or replacement. 4.5 Build up or replace teeth or cracked area using material and processes that ensure specified metal penetration and density. 4.6 Use weld run-off tabs to limit stress and hollows at edges of saw blade. 4.7 Grind or file teeth or cracks to required shape, tolerance and pitch.

	4.8 Dispose of saws with irreparable teeth, tips or blades in line with organisational procedures environmental protection practices. 4.9 Identify routine processing and equipment faults and resolve or report to appropriate personnel.
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Foundation Skills

This section describes those core and employment skills that are essential to performance and are not explicit in the performance criteria.

Numeracy skills to:	- use gauges and straight edges to: - measure results of hammering and/or rolling the blade - measure curvature - check alignment against tolerances.
Oral communication skills to:	ask open and closed probe questions and actively listen to clarify contents of work orders.
Reading skills to:	- interpret: - workplace health and safety procedures - work orders - manufacturers' maintenance recommendations.
Writing skills to:	complete accurate basic records for processing and equipment faults.
Planning and organising skills to:	efficiently and logically sequence the stages preparation and repair work using work using work order to guide activities.
Problem-solving skills to:	- assess blade condition and complete necessary levelling and tensioning adjustments and repair work - identify and dispose of unserviceable saws - recognise faulty equipment and resolve by reporting or rectifying.
Technology skills to:	- select and use appropriate repair, maintenance and personal protective equipment for maintaining wide band saw blades - efficiently and safely maintain wide band saw blades.

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
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Code and title current version	Code and title previous version	Comments	Equivalence status
FPISAW3220 Maintain wide band saw blades Release 2	FPISAW3220 Maintain wide band saw blades Release 1	Minor typographical and formatting errors corrected	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for FWPSAW3220 Maintain wide band saw blades

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Performance Evidence

A person demonstrating competency in this unit must satisfy all of the elements, performance criteria and foundation skills of this unit. If a specific volume or frequency is not stated below, then evidence must be provided that the following requirements have been performed on at least one occasion:

- follow organisational policies and procedures relevant to maintaining wide band saw blades
- maintain wide band and gang saw blades in line with the work order and within prescribed organisational requirements, including:
 - remove and replace saws from equipment
 - assess saw condition in line with standard operating procedures
- use welding processes and materials to produce:
 - weld beads which provides full penetration fusing together adjacent metal parts
 - welds free from any faults that would have the potential to weaken the strength and endurance capability of the weld deposit and weld zone.

Knowledge Evidence

A person competent in this unit must be able to demonstrate knowledge of:

- purpose, features and operation of heavy duty wide band and gang saws for which repairs are completed
- features and names of different parts of wide band saw blades
- purpose, features and operation of tools and equipment used to repair and maintain wide band saw blades:
 - hammers
 - stretcher or tension rolls
 - levelling rolls

- tension gauges and straight edges
- welding equipment and welding materials
- importance of levelling blades, setting tension, applying curvature and setting teeth 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 heavy duty wide band and gang saws
 - assessing saw blade condition
 - hammering, levelling and tensioning blades to specified requirements
 - applying curvature
 - welding to build up and replace teeth
 - grinding and filing teeth to required shape, tolerance and pitch
- characteristics of metal used in wide band saw blades and range of force which can be applied without damaging blades
- organisational policies and procedures specific to maintaining wide band saw blades:
 - workplace health and safety with particular emphasis on equipment lock out and use of personal protective equipment
 - communication reporting lines
 - recording and reporting processing and equipment faults
- environmental protection practices for repairing and maintaining tools and equipment in forest products factory settings:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials

Assessment Conditions

The following resources must be made available:

- tools and equipment used to repair and maintain wide band saw blades:
 - hammers
 - stretcher or tension rolls
 - levelling rolls
 - tension gauges and straight edges
 - welding equipment
 - welding jigs
 - run-off tabs
 - punches

- engineers hammers
- angle grinders
- sanders
- hand files
- abrasive paper or cloth
- welding material
- tools and equipment to be repaired and maintained:
 - large heavy duty wide band and gang saws used to cut timber
- personal protective equipment suitable for repairing and maintaining wide band saw blades
- manufacturers' instructions for use, repair and maintenance of equipment
- work order for repair and maintenance activities with specific instructions for repairing wide band and gang saw blades in specified equipment
- documents, spreadsheets and commonly used proformas for recording processing and equipment faults
- relevant personnel for the purposes of communicating information
- organisational policies and procedures for maintaining wide band saw blades.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessor requirements

Assessors must:

- hold the appropriate assessor competency standards as outlined in regulations; and
- be able to demonstrate vocational competencies at least to the level being assessed; and
- be able to demonstrate how they are continuing to develop their VET knowledge and skills as well as maintaining their industry currency and assessor competence.

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