



Australian Government

Department of Education, Employment and Workplace Relations

FPISAW3225B Maintain frame saw blades

Release: 1

FPISAW3225B Maintain frame saw blades

Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit describes the outcomes required to hammer, tension, back-gauge, weld and replace teeth on frame saw blades and includes inspecting saws, repairing defects such as damaged or missing teeth and cracks, and hammering ridges and lumps

General workplace legislative and regulatory requirements apply to this unit; however there are no specific licensing or certification requirements at the time of publication

This unit replaces FPISAW3225A Maintain frame saw blades

Application of the Unit

Application of the unit

The unit involves maintaining frame saw blades in a forest products factory setting

The skills and knowledge required for competent workplace performance are to be used within the scope of the person's job and authority

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units

Employability Skills Information

Employability skills This unit contains employability skills

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for maintenance	2.1. Applicable <i>Occupational Health and Safety</i> (OHS), <i>environmental, legislative</i> and <i>organisational requirements</i> relevant to maintaining frame saw blades are identified and followed
2. Assess saw condition	2.2. <i>Work order</i> is reviewed and checked with <i>appropriate personnel</i>
	2.3. <i>Frame saw blades</i> to be <i>maintained</i> are removed from the designated machinery
	2.4. <i>Equipment</i> is selected appropriate to work requirements and checked for operational effectiveness in line with manufacturer's recommendations
	2.5. Repair process is planned in line with site procedures and environmental requirements
	2.6. <i>Communication</i> with others is established and maintained in line with OHS requirements
	2.7. Saws are handled safely without damage to teeth
	2.8. Foreign material built up on saw surfaces is cleaned for inspection
	2.9. Saw is inspected to assess condition of teeth and saw

ELEMENT**PERFORMANCE CRITERIA**

- blade
- 2.10. Teeth and tips requiring repair or replacement are checked and marked
 - 2.11. Saw is declared unserviceable where hazardous defects are found and **disposed of** in line with site procedures, manufacturer's recommendations and environmental requirements
3. Hammer, tension and back-gauge saw
- 3.1. **Ridges or lumps** across and along saw are assessed and matched on both sides of the blade
 - 3.2. **Gauges and straight edges** are used in both directions and monitored for accuracy
 - 3.3. Ridges or lumps are progressively removed through **hammering** and the use of **structure rolls or levelling rolls** to achieve flatness
 - 3.4. Hammering or rolling **patterns** are controlled to localise stresses to avoid spring-back and re-occurrence of defects
 - 3.5. Saw is checked against required **curvature** using a gauge to identify **tensioning** requirements
 - 3.6. Tension curvature is obtained across and along saw in line with required standard
 - 3.7. Alignment of saw back is checked against saw tolerances using a gauge and areas not conforming rolled to obtain required tolerance
4. Repair teeth
- 4.1. Saw is placed in **welding jig** for applying heat and undertaking welding activities
 - 4.2. Weld line is marked to identify amount of damaged tooth to be removed and selected to minimise stresses
 - 4.3. Metal is removed to the proposed line, the metal edge is prepared for the **welding** process and cleaned of burn marks
 - 4.4. Worn, broken or ground surface is prepared for metal build up or replacement by applying heat and pressure
 - 4.5. Teeth are built up or replaced using compatible welding material and welding procedures that ensure specified **metal penetration and density**
 - 4.6. Weld **run-off tabs** are used to limit stress and hollows at edges of the saw
 - 4.7. Teeth are ground or filed to required shape, **tolerance** and pitch

ELEMENT**PERFORMANCE CRITERIA**

- 4.8. Metal is heat treated to **temper** recommended by manufacturer
- 4.9. Saws damaged during the repair that cannot be repaired are disposed of in line with site procedures, manufacturer's recommendations and environmental requirements
- 4.10. Repair process and equipment faults are investigated, **recorded and reported** in line with site requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level required for this unit

Required skills

- Technical skills sufficient to use and maintain relevant tools, machinery and equipment; efficiently and safely maintain frame saw blades
- Communication skills and interpersonal techniques sufficient to interact appropriately with colleagues and others in the workplace
- Literacy skills sufficient to accurately record and report workplace information, and maintain documentation
- Numeracy skills sufficient to estimate, measure and calculate time required to complete a task
- Problem solving skills sufficient to identify problems and equipment faults and demonstrate appropriate response procedures

Required knowledge

- Applicable Commonwealth, State or Territory legislation, regulations, standards, codes of practice and established safe practices relevant to the full range of processes for maintaining frame saw blades
- Environmental protection requirements, including the safe disposal of waste material, minimising carbon emissions and the cleaning of plant, tools and equipment
- Organisational and site standards, requirements, policies and procedures for maintaining frame saw blades
- Environmental risks and hazards
- Characteristics of metal and saws
- Hammering and tensioning methods
- Teeth repair methods

REQUIRED SKILLS AND KNOWLEDGE

- Saw condition assessment
- Established communication channels and protocols
- Problem identification and resolution strategies and common fault finding techniques
- Types of tools and equipment and procedures for their safe use, operation and maintenance
- Appropriate mathematical procedures for estimating and measuring, including calculating time to complete tasks
- Procedures for recording and reporting workplace information

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

A person who demonstrates competency in this unit must be able to provide evidence that they can safely and efficiently maintain frame saw blades within organisational requirements

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The evidence required to demonstrate competency in this unit must be relevant to, and satisfy, all of the requirements of the elements of this unit and include demonstration of:

- following applicable Commonwealth, State or Territory legislative and regulatory requirements and codes of practice relevant to maintaining frame saw blades
- following organisational policies and procedures relevant maintaining frame saw blades
- maintaining frame saw blades in line with work order and within prescribed organisational requirements
- removing and replacing saws from equipment
- assessing saw condition in line with standard operating procedures

Context of and specific resources for assessment

- Competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of required knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to follow relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - workplace location or simulated workplace
 - materials and equipment relevant to undertaking work applicable to this unit
 - specifications and work instructions

Method of assessment

- Assessment must satisfy the endorsed Assessment Guidelines of the FPI11 Training Package
- Assessment methods must confirm consistency and

EVIDENCE GUIDE

accuracy of performance (over time and in a range of workplace relevant contexts) together with application of required knowledge

- Assessment must be by direct observation of tasks, with questioning on required knowledge and it must also reinforce the integration of employability skills
- Assessment methods must confirm the ability to access and correctly interpret and apply the required knowledge
- Assessment may be applied under project-related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency
- The assessment environment should not disadvantage the candidate
- Assessment practices should take into account any relevant language or cultural issues related to Aboriginality, gender or language backgrounds other than English
- Where the participant has a disability, reasonable adjustment may be applied during assessment
- Language and literacy demands of the assessment task should not be higher than those of the work role

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

OHS requirements: are to be in line with applicable Commonwealth, State or Territory legislation and regulations, and

RANGE STATEMENT

organisational safety policies and procedures, and may include:

- personal protective equipment and clothing
- safety equipment
- first aid equipment
- fire fighting equipment
- hazard and risk control
- fatigue management
- elimination of hazardous materials and substances
- safe forest practices including required actions relating to forest fire
- manual handling including shifting, lifting and carrying
- machine isolation and guarding
- legislation
- organisational policies and procedures
- workplace practices

Environmental requirements
may include:

Legislative requirements:

are to be in line with applicable Commonwealth, State or Territory legislation, regulations, certification requirements and codes of practice and may include:

- award and enterprise agreements
- industrial relations
- Australian Standards
- confidentiality and privacy
- OHS
- the environment
- equal opportunity
- anti-discrimination
- relevant industry codes of practice
- duty of care

Organisational requirements
may include:

- legal
- organisational and site guidelines
- policies and procedures relating to own role and responsibility
- quality assurance
- procedural manuals
- quality and continuous improvement processes and standards

RANGE STATEMENT

- OHS, emergency and evacuation procedures
 - ethical standards
 - recording and reporting requirements
 - equipment use and maintenance and storage requirements
 - environmental management requirements (waste minimisation and disposal, recycling and re-use guidelines)
- Work order** is to include:
- instructions for the repair of frame saw blades in designated equipment
- and may include:
- instructions for the environmental monitoring of work and procedures
 - environmental care requirements relevant to the work
- Appropriate personnel** may include:
- supervisors
 - suppliers
 - clients
 - colleagues
 - managers
- Frame saw blades** are to include:
- large heavy duty saws used widely in the Forestry Industry
- Maintenance** may include:
- the correction of:
- lumps
 - ridges
 - cracks
 - broken or damaged teeth
- Equipment** may include:
- hammers
 - structure rolls
 - levelling rolls
 - tensioning instruments
 - gauges and straight edges to check accuracy of hammering or tensioning
 - welding equipment
- Communication** may include:
- verbal and non-verbal language
 - constructive feedback
 - active listening
 - questioning to clarify and confirm understanding
 - use of positive, confident and cooperative

RANGE STATEMENT

	language
	• use of language and concepts appropriate to individual social and cultural differences • control of tone of voice • body language
Disposing of may include:	• recycling un-serviceable saws/saws damaged during the repair process that cannot be repaired • re-using un-serviceable saws/saws damaged during the repair process that cannot be repaired
Ridges or lumps are to include:	• defects obtained during saw operation
Gauges and straight edges are to include:	• measuring and accuracy instruments used in checking the results of hammering and tensioning
Hammered	is the process of removing ridges and lumps from saw blades using hammers or rolls
Structure rolls and levelling rolls	are devices for assisting in the process of removing saw defects such as ridges and lumps
Patterns are to include:	• methods which use hammers or rolls to remove defects evenly and without affecting the opposing side
Curvature is to include:	• how much tension is achieved in a saw by placing curvature in it
Tensioning	is the process of placing tension in a blade to counteract force during cutting
Welding jigs	hold the saw and tip in place securely to allow welding to occur
Welding may include:	• oxyacetylene • gas tungsten arc
Metal penetration and density is to include:	• a weld which provides enough penetration to ensure a strong cohesion • density that ensures the weld is free of holes and inclusions
Run-off tabs are to ensure:	• that minimal welding splatter ends up on the saw blade, subsequently requiring grinding off
Tolerance may include:	• profile • pitch

RANGE STATEMENT

- set
- material thickness to manufacturer's specifications

Temper

is the toughening process which occurs by heating the welded or built up area and allowing it to cool slowly

- Records and reports** may include:
- maintenance of frame saw blades
 - inspection
 - storage locations
 - quality outcomes
 - hazards
 - incidents
 - equipment malfunctions

and may be:

- manual
- using a computer-based system or another appropriate organisational communication system

Unit Sector(s)

Unit sector No sector assigned

Co-requisite units

Co-requisite units

Competency field

Competency field Sawmilling and Processing