



Australian Government

FWPCOT3294 Swage and shape saw blades

Release: 1

FWPCOT3294 Swage and shape 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 widen and press into shape through a cold forming process the cutting points of saw teeth to create a block that has the required hook, back, tangential and radial clearance angles for efficient saw operation.

The unit applies to individuals who swage and shape saw blades in a saw technician workshop or sawmill.

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 and, where required, seek clarification from appropriate personnel 1.2 Review environmental protection procedures and workplace health and safety requirements, including the use of personal protective equipment, equipment lock-out and safe manual handling techniques

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.3 Identify, assess and take actions to mitigate risks and hazards associated with swaging and shaping saw blades 1.4 Identify and implement workplace procedures for disposing of and minimising waste material, cleaning tools and equipment, and maximising energy efficiency 1.5 Identify required swage shape and thickness from industry standards, existing saws and relevant records 1.6 Select appropriate tools and equipment, and check for operational effectiveness 1.7 Confirm that specifications for swaging and shaping saw blades match industry standards, workplace tolerances, requirements for materials to be sawn, speed, cutting angle and sawing process
2. Set up equipment	2.1 Set up swage and shaping equipment to meet production requirements 2.2 Check die or swage clamp or vice shape against required shape, clearances and kerf, and change as required 2.3 Secure saw blade in a swage clamp or vice or swager with teeth aligned to swager or vice shape 2.4 Lubricate surfaces to be swaged
3. Swage teeth	3.1 Use equipment according to workplace safety procedures, manufacturer instructions and environmental protection practices 3.2 Complete trial swage, check and adjust swaging setup 3.3 Accept or reject trialled material and dispose of according to environmental protection practices 3.4 Inspect swage shape and thickness, and measure for tangential and radial clearance and kerf 3.5 Adjust swaging operation to meet production specifications 3.6 Check dies for wear and adjust to ensure accurate operation 3.7 Swage remaining teeth according to production and manufacturer specifications
4. Shape teeth	4.1 Remove excess material resulting from the swaging process 4.2 Complete trial shape and check tooth tolerances, adjusting as required 4.3 Accept or reject trialled material and dispose of according to

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	environmental protection practices 4.4 Assess shape and check tooth alignment, adjusting remaining teeth as required 4.5 Record and report processing problems and equipment faults 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
Reading	Extracts essential information from operational manuals to determine safe operating procedures for equipment
Writing	Prepares routine written reports using the required format, language and structure
Oral communication	Employs active listening and questioning to clarify content of work orders
Numeracy	Performs precise calculations to swage and shape saw blades to specified hook, back, tangential and radial clearance angles
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

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPCOT3294 Swage and shape saw blades	FWPCOT3215 Swage and shape saw blades	Updated environmental and workplace health and safety requirements; separated performance criteria into a new	Equivalent unit

		element; updated foundation skills; updated performance evidence to map to performance criteria; updated unit code to reflect changes and meet compliance	
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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 FWPCOT3294 Swage and shape 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:

- safely swaged and shaped saw blades for circular and band saws
- in doing the above job, the individual has:
 - followed work order and relevant workplace health and safety and environmental protection procedures
 - set up equipment
 - recorded and reported production outcomes.

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 and operation of circular and band saws for which saw blades are shaped and swaged
- features and names of different parts of circular and band saw blades
- purpose, features and operation of tools and equipment used to shape and swage blades:
 - swagers
 - swage clamps or vices
 - dies
 - measuring equipment
- importance of swaging and shaping saw blades 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
- techniques used to swage and shape saw teeth to specified hook, back, tangential and radial clearance angles
- industry standard and workplace tolerances
- types of risk and hazards and mitigation measures associated with swaging and shaping saw blades
- workplace procedures specific to swaging and shaping saw blades:
 - workplace health and safety, with particular emphasis on equipment lock-out, use of personal protective equipment (PPE) and safe manual handling
 - communication reporting lines
 - recording and reporting of processing problems 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

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a saw technician workshop, a sawmill or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - swagers
 - swage clamps or vices
 - dies
 - wire gauges
 - test bars
 - rules
 - micrometers
 - vernier callipers
 - saw blades for circular saws and band saws
 - PPE suitable for swaging and shaping saw blades
- specifications:
 - template documents for recording production output, processing problems and equipment faults
 - manufacturer instructions for the use of equipment and recommended specifications for swaging and shaping teeth
 - work order with specific instructions for swaging and shaping saw blades for specified equipment

- workplace procedures for swaging and shaping saw blades.

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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