Modification history

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| Release | Comments |
| Release 2 | This version released with FWP Forest and Wood Products Training Package Version 5.0. |
| Release 1 | This version released with FWP Forest and Wood Products Training Package Version 2.0. |

| FWPCOT3215 | Swage and shape saw blades |
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| 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 occupational licensing, legislative or certification requirements apply to this unit at the time of publication. |
| Prerequisite Unit | Nil |
| Unit Sector | Common Technical |

| Elements | Performance Criteria |
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| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element. |
| 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 lockout and safe manual handling techniques  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 saw, 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 in a swage clamp or vice or swager with teeth aligned to swager or vice shape  2.4 Apply anti-scuffing paste to areas of saw for swaging |
| 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 File and shape 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 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. | |
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| Skill | Description |
| Reading | * Extract essential information from operational manuals to determine safe operating procedures for equipment |
| Writing | * Prepare routine written reports using the required format, language and structure |
| Oral Communication | * Employ active listening and questioning to clarify content of work orders |
| Numeracy | * Perform precise calculations to swage and shape saw blades specified hook, back, tangential and radial clearance angles |
| Navigate the world of work | * Identify main tasks, responsibilities and boundaries of own role |
| Interact with others | * Use modes of communication suitable to purpose to confirm and clarify understanding |
| Get the work done | * Recognise and respond to routine problems |

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| Unit Mapping Information | | | |
| Code and title current version | Code and title previous version | Comments | Equivalence status |
| FWPCOT3215 Swage and shape saw blades  Release 2 | FWPPCOT3215 Swage and shape saw blades  Release 1 | Minor edits | Equivalent |

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

| TITLE | Assessment requirements for FWPCOT3215 Swage and shape saw blades |
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| Performance Evidence | |
| An individual demonstrating competency must satisfy all the elements and performance criteria in this unit. There must be evidence that, on at least on one occasion, the individual has:   * read and clarified work order for swaging and shaping saw blades to specifications * set up equipment * safely swaged saw blade * safely shaped saw blade * recorded and reported production outcomes. | |

| Knowledge Evidence |
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| 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 lockout, use of personal protective equipment (PPE) and safe manual handling * communication reporting lines * recording and reporting 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 |
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| Assessment of the skills in this unit of competency must take place under the following conditions:   * physical conditions: * skills must be demonstrated in a saw technician workshop, 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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