

Title	Grind and hone straight knives and anvils		
Level	3	Credits	5

Purpose	People credited with this unit standard are able to: demonstrate knowledge of hazards and safe work practices associated with grinding and honing straight knives and anvils; clean and match knives and anvils; prepare grinder; mount knives and anvils and adjust grinder; grind and hone straight knives and anvils; and store knives and anvils and complete documentation.
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Classification	Solid Wood Manufacturing > Saw Doctoring
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Available grade	Achieved
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Guidance Information

- 1 Legislation
Health and Safety at Work Act 2015.
Resource Management Act 1991.
- 2 Definitions
Accepted industry practice refers to approved codes of practice and standardised procedures accepted by the wider wood manufacturing industry as examples of best practice.
Workplace procedures refer to documented policies and procedures set by the organisation carrying out the work, and to documented or other directions provided to staff, and applicable to the tasks being carried out. They may include but are not limited to – standard operating procedures, site specific procedures, site safety procedures, equipment operating procedures, quality assurance procedures, product quality specifications, references, approved codes of practice, housekeeping standards, environmental considerations, on-site briefings, supervisor’s instructions, and procedures to comply with legislative and local body requirements relevant to the wood manufacturing sector.
- 3 Assessment information
All activities and evidence must be in accordance with workplace procedures and accepted industry practice.
- 4 Recommended unit standard for entry: Unit 669, *Demonstrate knowledge of grinding wheels and fluids*.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of hazards and safe work practices associated with grinding and honing straight knives and anvils.

Performance criteria

- 1.1 Hazards associated with grinding and honing straight knives and anvils are identified and actions to be taken to manage the hazard are described.
- Range may include but is not limited to – grinding wheel disintegration, loose grinding wheel, exposure to grinding coolant.
- 1.2 Safe work practices associated with grinding and honing straight knives and anvils are identified and applied.
- Range practices may include but are not limited to – isolation procedures, lock-outs, emergency stops, machine guarding, wearing of appropriate safety equipment.

Outcome 2

Clean and match knives and anvils.

Performance criteria

- 2.1 Knives and anvils are cleaned of all foreign matter that could affect grinding.
- 2.2 Knives and anvils are checked for faults and remedial action is identified.
- Range faults may include but are not limited to – warp, cracks, chips, burns, delamination, raised spots;
action – grind, straighten, or replace.
- 2.3 Knives and anvils are matched in sets for dimension, shape, and weight, and are marked.

Outcome 3

Prepare grinder.

Performance criteria

- 3.1 Grinder and work area are cleaned of all foreign matter that could affect grinding.
- 3.2 Grinding wheel and grinding speed is selected to suit knives and anvils, and grind, where indicated.

- 3.3 Grinding wheel is checked for faults, and action is taken.
- Range faults – cracks, clogging;
action – replacement, dressing, or shaping.
- 3.4 Grinding wheel is fitted, and grinder operations checked to manufacturer's specifications.
- Range true running, vibration.
- 3.5 Grinding wheel is checked and dressed where indicated.

Outcome 4

Mount knives and anvils and adjust grinder.

Performance criteria

- 4.1 Knives and anvils are set in the grinder to manufacturer's specifications, with knife and anvil sets in sequence.
- 4.2 Grinding angle is set.
- 4.3 Clearance between grinding wheel and knife and anvil is adjusted to manufacturer's specifications.
- 4.4 Automatic lowering device is set to manufacturer's specifications.
- 4.5 Traversing stops are set to clear both ends of knife and anvil.
- 4.6 Coolant level are checked and topped-up according to manufacturer's specifications.
- Range wet grinding.
- 4.7 Grind solutions are handled and stored in accordance with Safety Data Sheets.

Outcome 5

Grind and hone straight knives and anvils.

Performance criteria

- 5.1 Grinder is cleaned and lubricated as required, correct grinding wheel is selected and fitted, and angles are set.
- 5.2 Knives and anvils are mounted for grinding.
- 5.3 Operation of grinder is checked for problems after the first pass.
- Range problems may include but are not limited to – burning, incorrect grinding angle, incorrect knife set-up.

- 5.4 Coolant flow rate and cleanliness are maintained during wet grinding.
- 5.5 Knife and anvil edges are sharpened to the specified angle and free from defects.
Range defects – burning, chipping.
- 5.6 Knife and anvil edges are ground to a constant straight line.
- 5.7 Knives and anvils are honed, and burrs completely removed.
- 5.8 Grinder is cleaned.

Outcome 6

Store knives and anvils and complete documentation.

Performance criteria

- 6.1 Babbitt jig is set-up and operated.
- 6.2 Babbitt thickness is checked to ensure it is not thicker than the knife and anvil, and all burrs are removed.
- 6.3 Knives and anvils are stored in marked matched sets.
- 6.4 Knives and anvils are stored.
Range for safety, avoidance of moisture and dust.
- 6.5 Documentation is completed.

Planned review date	31 December 2024
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	27 January 1994	31 December 2019
Review	2	24 October 1996	31 December 2019
Review	3	10 February 1999	31 December 2020
Review	4	18 December 2006	N/A
Review	5	24 September 2020	N/A

Consent and Moderation Requirements (CMR) reference	0013
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Competenz qualifications@competenz.org.nz if you wish to suggest changes to the content of this unit standard.