

<b>Title</b>	<b>Grind and hone straight cutters in-head</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>3</b>

<b>Purpose</b>	People credited with this unit standard are able to: manage hazards associated with grinding and honing straight cutters in-head; clean cutterhead; prepare grinder; mount and adjust cutterhead in grinder; grind and hone cutters in-head; and store cutterhead.
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<b>Classification</b>	Solid Wood Manufacturing > Timber Machining
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<b>Available grade</b>	Achieved
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<b>Prerequisites</b>	Unit 669, <i>Demonstrate knowledge of grinding wheels and fluids</i> ; or demonstrate equivalent knowledge and skills.
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## Guidance Information

- 1 The following apply to the performance of all outcomes of this unit standard:
  - a All work practices must meet recognised codes of practice and documented worksite health and safety and environmental procedures (where these exceed the code) for personal, product and worksite health and safety, and must meet the obligations required under current legislation, including the Health and Safety in Employment Act 1992, the Resource Management Act 1991, and their subsequent amendments.
  - b All work practices must meet documented worksite operating procedures. This includes the recording (by electronic or non-electronic means) of activities, events, and decisions.
  - c All evidence of communications gathered in relation to this unit standard must be in accordance with worksite procedures for content, recipient, timing and method.
- 2 **Definition**  
*Worksite policies and procedures* refer to documented policies and to documented or other directions provided to staff. These include, but are not limited to, ways of managing health and safety, environmental considerations, quality, and production, and must conform to legislation. Examples include standard operating procedures, company health and safety plans, on-site briefings, and supervisor's instructions.

## Outcomes and performance criteria

### Outcome 1

Manage hazards associated with grinding and honing straight cutters in-head.

**Performance criteria**

- 1.1 Hazards associated with grinding and honing straight cutters in-head are identified and actions to be taken to isolate, minimise or eliminate the hazards are described in accordance with worksite policies and procedures.
- Range hazards may include but are not limited to - grinding wheel disintegration, loose grinding wheel, exposure to grinding coolant. evidence of three is required.
- 1.2 Safe work practices associated with grinding and honing straight cutters in-head are used in accordance with worksite policies and procedures and legislative requirements.
- Range practices include – isolation procedures, lock-outs, emergency stops, machine guarding, wearing of appropriate safety equipment.

**Outcome 2**

Clean cutterhead.

**Performance criteria**

- 2.1 Cutterhead is cleaned of all foreign matter that could affect grinding in accordance with worksite policies and procedures.
- 2.2 Cutters and cutterhead are checked for faults, and remedial action is identified, in accordance with worksite policies and procedures.
- Range faults – cracks, chips, burns, delamination, raised spots;  
action – replace or grind.
- 2.3 Cutters are checked for position in or on cutterhead and adjusted to manufacturer's specifications.
- Range insertion, projection.

**Outcome 3**

Prepare grinder.

**Performance criteria**

- 3.1 Grinder and work area are cleaned of all foreign matter that could affect grinding in accordance with worksite policies and procedures.
- 3.2 Grinding wheel and grinder speed are selected to suit cutter steel and grinder capacity in accordance with worksite policies and procedures. The effects of incorrect selection of wheel speed and grinding angle are explained in accordance with worksite policies and procedures.

3.3 Grinding wheel is checked for faults, and action is taken, in accordance with worksite policies and procedures.

Range faults – cracks, clogging;  
action – replacement, dressing or shaping.

3.4 Grinding wheel is fitted, and grinder operation is checked, according to manufacturer's specifications.

Range true running, vibration.

3.5 Grinding wheel is checked and dressed where indicated in accordance with worksite policies and procedures.

3.6 Grinding settings are made in accordance with worksite policies and procedures.

#### **Outcome 4**

Mount and adjust cutterhead in grinder.

#### **Performance criteria**

4.1 Cutterhead is locked to the arbor according to manufacturer's specifications.

4.2 Tool rest is set to manufacturer's specifications.

4.3 Advance is set to manufacturer's specifications.

4.4 Traversing stops are set to clear both ends of cutters in accordance with worksite policies and procedures, when applicable.

4.5 Clearance between grinding wheel and cutters is adjusted to manufacturer's specifications.

4.6 Coolant level is checked and topped-up in accordance with manufacturer's specifications.

Range wet grinding.

4.7 Grind solutions are handled and stored in accordance with Material Safety Data Sheets (MSDS) and worksite policies and procedures.

#### **Outcome 5**

Grind and hone cutters in-head.

#### **Performance criteria**

5.1 Operation of grinder is checked after the first pass in accordance with worksite policies and procedures.

- 5.2 Coolant flow rate and cleanliness are maintained during wet grinding.
- 5.3 Cutters are ground until the specified edge and clearance angles are obtained across all cutters.
- 5.4 Cutter edges are ground to a constant straight line.
- 5.5 Cutter edges are sharpened to specified angle, within permitted tolerances for concentricity and weight, and are free from defects.  
Range defects - burning, chipping, grinding marks.
- 5.6 Permitted tolerances for concentricity and weight are explained in accordance with manufacturer's specifications.
- 5.7 Cutters are honed and burrs completely removed.
- 5.8 Grinder is cleaned in accordance with worksite policies and procedures.

**Outcome 6**

Store cutterhead.

**Performance criteria**

- 6.1 Cutterhead is drained, if applicable.
- 6.2 Cutterhead is stored in accordance with worksite policies and procedures for safety and avoidance of moisture and dust.
- 6.3 Records are completed in accordance with worksite policies and procedures.

**This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.**

**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	27 January 1994	31 December 2012
Review	2	24 October 1996	31 December 2012
Review	3	10 February 1999	31 December 2012
Review	4	18 December 2006	31 December 2012
Review	5	15 April 2011	31 December 2022
Review	6	25 June 2020	31 December 2022

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