

Title	Break down logs in a sawmilling operation		
Level	4	Credits	30

Purpose	People credited with this unit standard are able to: demonstrate knowledge of fibre and grade recovery using breakdown equipment; demonstrate knowledge of the operation of breakdown equipment and downstream processes; prepare to operate breakdown equipment; operate the breakdown equipment at production speed; monitor the performance of breakdown equipment; and apply maintenance requirements specific to breakdown equipment.
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Classification	Solid Wood Manufacturing > Sawmilling
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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 – approved codes of practice and standardised procedures accepted by the wider sawmilling industry as examples of best practice.
Breakdown equipment refers to the headrig saw centre and accompanying conveying systems.
Corrective action may include actions such as communication to management, communication to on-site technical person, communication to off-site technical support person, cleaning, communication with maintenance staff, recalibration, or changes made to the operating system in accordance with worksite documentation.
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 industry sector.
- 3 Range
Log breakdown can be achieved using an automatic, manual, or semi- automated log breakdown system;
evidence of one log breakdown system is required.

- 4 Assessment information
All activities and evidence must meet workplace procedures and accepted industry practice.
- 5 Recommended unit standard for entry:
Unit 160, *Demonstrate knowledge of the principles of sawmilling.*
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Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of fibre and grade recovery using breakdown equipment.

Performance criteria

- 1.1 Cutting patterns and product mix are described and matched to logs and customer requirements.
- 1.2 Processing constraints are identified, and potential solutions are described.
- Range may include but are not limited to – markets, log supply, product mix, downstream processing options; evidence is required of three.
- 1.3 Impacts of poor fibre and grade recovery are described and related to potential effects on customer and company effectiveness.

Outcome 2

Demonstrate knowledge of the operation of breakdown equipment and downstream processes.

Performance criteria

- 2.1 Role of the breakdown equipment in the log conversion process is described.
- 2.2 Operating parameters and capability of the breakdown equipment are described.
- Range includes but is not limited to – minimum and maximum dimensions of input material.
- 2.3 Purpose, function and capability of other machine centres involved in the downstream processing of timber are described.
- Range downstream processing may include but is not limited to – resawing, edging, timber handling and stacking; evidence is required of two.

2.4 Operating components of the breakdown equipment are identified, and their operation is described.

Range may include but is not limited to – process control and monitoring systems, set works, log positioning, log hold down system, log stop and loader, saw guides, in-feed and out-feed conveyor systems, lubrication systems, hydraulic systems; and if fitted – pressure guides, saw straining system, laser light system, pantograph, end dog, sharp chain.

2.5 Safety features of the breakdown equipment are identified, and their role is described.

Range includes but is not limited to – isolation procedures, stop button, lockout switch or system, hold cards, guards.

2.6 Roles and responsibilities of the breakdown operator are described.

Outcome 3

Prepare to operate breakdown equipment.

Performance criteria

3.1 Start-up checks are completed.

3.2 Input log checks are completed to ensure logs meet specification and production run expectations.

3.3 Hazards associated with operation of breakdown equipment are identified and actions to be taken to manage the hazards are described.

Range hazards may include but are not limited to – moving equipment, dust, mobile plant, noise; evidence is required of three.

3.4 Checks are carried out to ensure that other upstream and downstream processing stages are ready for production.

3.5 Cutting programmes are selected based on the incoming logs and the order or customer specification.

3.6 Trial log is cut to check the suitability for mill processing, and output product grade and yield meet cutting schedule requirements.

Outcome 4

Operate the breakdown equipment at production speed.

Performance criteria

- 4.1 Safe work practices associated with operation of breakdown equipment are identified and applied.
- Range practices may include but are not limited to – isolation procedures, lock-outs, emergency stops, machine guarding, wearing appropriate safety equipment.
- 4.2 Breakdown equipment is operated to apply the agreed cutting strategy to input material to maximise grade, size and/or conversion and optimise recovery value.
- 4.3 Product flow is managed in order to balance mill flow and optimise breakdown operations.

Outcome 5

Monitor the performance of breakdown equipment.

Performance criteria

- 5.1 Control information is entered into any fitted control device, and output data is monitored and interpreted.
- 5.2 Output from the breakdown equipment is monitored and corrective action is taken.
- Range may include but is not limited to – blunt and damaged saws, size variations, input log quality variations.
- 5.3 Equipment faults and malfunctions are identified, and corrective action is taken.
- Range equipment faults may include but are not limited to – mechanical, electrical, hydraulic, distributed control system.
- 5.4 Production, maintenance and quality records are completed.

Outcome 6

Apply maintenance requirements specific to breakdown equipment.

Performance criteria

- 6.1 Preventative maintenance and cleaning schedule for breakdown equipment are carried out.
- 6.2 Saw changes are coordinated with other staff and breakdown equipment adjustments are made.

Replacement information	This unit standard replaced unit standard 15765 and unit standard 15767.
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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	20 November 2014	N/A
Review	2	23 April 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.