

<b>Title</b>	<b>Demonstrate knowledge of log extraction methods and breaking out, and attach logs under supervision</b>		
<b>Level</b>	<b>2</b>	<b>Credits</b>	<b>10</b>

<b>Purpose</b>	<p>This unit standard is intended for people employed in a forestry operation.</p> <p>People credited with this unit standard will be able to:  demonstrate knowledge of log extraction methods;  demonstrate knowledge of breaking out; identify and manage hazards while breaking out under supervision; demonstrate knowledge of communications systems used in breaking out; and attach logs under supervision.</p>
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<b>Classification</b>	Forestry > Forest Foundation Skills
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 Legislation relevant to this unit standard includes the: Health and Safety at Work (HSW) Act 2015, Resource Management Act 1991; the Resource Management (National Environmental Standards for Plantation Forestry) Amendment Regulations 2018; and the Heritage New Zealand Pouhere Taonga Act 2014, and any subsequent amendments.
- 2 References  
New Zealand Forest Owners Association, *Forest Practice Guides* (2019), and any subsequent amendments, available from <http://www.nzfoa.org.nz>.  
*Approved Code of Practice (ACOP) for Safety and Health in Forestry Operations*, December 2012, available from <http://www.worksafe.govt.nz>.
- 3 Definitions  
*Accepted industry practice* refers to approved codes of practice and standardised procedures accepted by the wider forestry industry as examples of best practice.  
*Forestry operations* include forest establishment, silviculture, harvesting, forest inventory, and forest and crew management.  
*PPE* refers to personal protective equipment and may include but is not limited to high-visibility protective clothing, gloves, face and eye protection, safety helmet, footwear, hearing protection, and safety devices.  
*RT* refers to a radio telephone used for communication with other workers.  
*Talkie Tooter* refers to a remote control radio designed for use in logging.

*Worksite procedures* refer to documented procedures used by the organisation carrying out the work and applicable to the tasks being carried out. They may include but are not limited to – standard operating procedures, site safety procedures, equipment operating procedures, quality assurance procedures, housekeeping standards, procedures to comply with legislative and local body requirements.

#### 4 Assessment information

All knowledge and competencies must be in accordance with accepted industry practice.

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## Outcomes and performance criteria

### Outcome 1

Demonstrate knowledge of log extraction methods.

#### Performance criteria

1.1 The three main log extraction methods are described.

Range ground based, cable, aerial.

1.2 Extraction machines associated with ground based extraction and cable extraction are identified.

Range evidence of at least four machines is required.

1.3 The conditions to which each extraction method is suited are described.

Range terrain, ground conditions, environmental conditions.

### Outcome 2

Demonstrate knowledge of breaking out.

#### Performance criteria

2.1 Basic breaking out terminology is defined.

Range may include but is not limited to – drag, main rope, tail rope, skyline, piece size, blocks, payload, butt rigging, carriage, winch rope, bight, binding, strop, extraction cycle, pre-stropping, double-stropping, choker setting, ferrule; evidence of eight terms is required.

2.2 The term *clean-up* is defined and clean-up requirements for breaking out are described in accordance with accepted industry practice and worksite procedures.

Range log characteristics (length, diameter, green wood).

- 2.3 Factors that influence the payload of a machine are described.
- 2.4 Factors that should be taken into consideration when selecting the drag are explained.
- 2.5 Strop types and strop components are described.
- Range one of – chain and hook or wire rope, choker, and ferrule.
- 2.6 Rules relating to strop placement on a stem are explained.
- 2.7 Different stropping methods and the situations where each would be used are explained.
- Range double wrap, figure eight, bridal strop, strop and half hitch.
- 2.8 Two situations where a log may need to be re-stropped are described.
- 2.9 Situations where it would be necessary to unhook a log are described.
- 2.10 Methods for safe unhooking of the log are explained.

### Outcome 3

Identify and manage hazards while breaking out under supervision.

#### Performance criteria

- 3.1 PPE and equipment required for breaking out is selected and used.
- Range personal protective equipment includes but is not limited to – helmet, gloves, high visibility gear, safety boots, hydration pack or water bottle;  
equipment may include – Talkie Tooter, RT.
- 3.2 Safe areas in a breaking out site are identified from the breaking out plan and, for each area, a reason why they are safe is explained.
- 3.3 Breaking out hazards are identified, and a method of control for each hazard is explained in accordance with accepted industry practice and worksite procedures.
- Range hazards may include but are not limited to – unstable logs, moving ropes, moving logs, terrain, ground conditions, wire rope handling, heavy lifting, rope failure, block failure, stump failure, bight of rope, machines, production pressure, debris, stumps, rocks, falling hazards, limited visibility, other operations, ropes binding, poor communication, dehydration;  
evidence of eight hazards is required.
- 3.4 The need for on-going hazard identification and assessment is explained.

- 3.5 Factors that affect hazard assessment and may introduce new hazards to the operation are explained.

Range may include – weather, terrain.

#### Outcome 4

Demonstrate knowledge of communications systems used in breaking out.

#### Performance criteria

- 4.1 Clear and agreed hand signals for ground based and/or cable extraction are used in accordance with worksite procedures.

Range cable – ahead on main rope, stop all ropes, emergency stop, slacken ropes, one log still attached, ahead on tailrope; ground based – stop (without ropes), position machine.

- 4.2 Industry recognised audible signals used in breaking out are described.

Range methods of communication – Talkie Tooter, radio; evidence of audible signals using one method is required.

#### Outcome 5

Attach logs under supervision.

#### Performance criteria

- 5.1 Strop is attached under supervision and in accordance with accepted industry practice.

<b>Planned review date</b>	31 December 2028
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#### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	22 May 2008	31 December 2016
Revision	2	16 July 2010	31 December 2016
Review	3	19 March 2015	31 December 2017
Review	4	10 December 2015	N/A
Review	5	28 May 2020	N/A
Rollover	6	28 March 2024	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0173
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

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### Comments on this unit standard

Please contact Muka Tangata - People, Food and Fibre Workforce Development Council [qualifications@mukatangata.nz](mailto:qualifications@mukatangata.nz) if you wish to suggest changes to the content of this unit standard.