

<b>Title</b>	<b>Extract stems using a swing yarder</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>18</b>

<b>Purpose</b>	<p>This unit standard is intended for people employed in swing yarder operator roles in a cable harvesting operation. These people are responsible for extracting stems and ensuring the safety of any personnel working in close proximity to the swing yarder.</p> <p>People credited with this unit standard are able to: prepare for swing yarder operations; prepare a swing yarder for operation; start up and shut down a swing yarder; demonstrate knowledge of swing yarder machine capabilities; operate a swing yarder to extract stems; and carry out general swing yarder operator responsibilities.</p>
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<b>Classification</b>	Forestry > Forest Harvesting Operations
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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; the Resource Management (National Environmental Standards for Plantation Forestry) Amendment Regulations 2018; and any subsequent amendments.
- 2 References  
*Approved Code of Practice (ACOP) for Safety and Health in Forestry Operations*, December 2012, available from <https://worksafe.govt.nz/>.  
 New Zealand Forest Owners Association, *Forest Practice Guides* (2019), and any subsequent amendments, available from <https://www.nzfoa.org.nz>.
- 3 Assessment must involve operating a swing yarder using either strops or a logging grapple.
- 4 Definitions  
*Accepted industry practice* – approved codes of practice and standardised procedures accepted by the wider forestry industry as examples of best practice.  
*Job prescription* refers to any written instructions for the operation and may include maps, harvest plans or cutting plans.

*PPE* – personal protective equipment as required for the task in accordance with accepted industry practice and worksite procedures. This may include but is not limited to high visibility clothing, protective clothing, gloves, face and eye protection, safety helmet, approved footwear, chaps, hearing protection, and safety devices.

*RT* refers to a radio telephone in which audible communications are established by use of a two way radio transmitter and receiver.

*Talkie tooter* refers to a remote control radio designed for use in harvesting.

*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.

## Outcomes and performance criteria

### Outcome 1

Prepare for swing yarder operations.

#### Performance criteria

- 1.1 PPE is worn in accordance with accepted industry practice.
- 1.2 The risks specific to swing yarder operations are assessed and controlled in accordance with accepted industry practice.
- 1.3 The operator's responsibilities for monitoring and enforcing the safe retreat position are explained in accordance with accepted industry practice.

### Outcome 2

Prepare a swing yarder for operation.

#### Performance criteria

- 2.1 Pre-start checks are carried out in accordance with the manufacturer's requirements and worksite procedures.
 

Range	pre-start checks include but are not limited to – fluids, hoses, Operator Protection Structures (OPS), signalling means, swing yarder guarding, safety features, fire equipment, wire rope connections, rigging, camera (where used).
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- 2.2 A pre-start inspection is carried out in accordance with the manufacturer's requirements and worksite procedures.
 

Range	inspection includes – swing yarder, boom and anchor rigging, boom certification, stability.
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2.3 Maintenance is carried out in accordance with the manufacturer's requirements and worksite procedures.

Range maintenance includes – daily and periodic maintenance requirements, lubrication.

2.4 Defects and maintenance requirements are reported, and defects are rectified prior to operating swing yarder, in accordance with accepted industry practice, manufacturer's requirements, and worksite procedures.

### Outcome 3

Start up and shut down a swing yarder.

#### Performance criteria

3.1 Start-up and shutdown procedures are explained in accordance with the manufacturer's requirements.

Range warning indicators; warm-up requirements; brakes or locking devices applied.

3.2 Swing yarder is started and warmed up in accordance with the manufacturer's requirements.

3.3 Consequences of warnings from swing yarder warning indicators are explained, and rectifying action is described, in accordance with the manufacturer's requirements.

Range may include – oil, water, and/or air pressure, temperature and levels, computer equipment, warning signals; evidence of six is required.

3.4 Communication system is tested with swing yarder running, and also prior to operation, in accordance with worksite procedures.

3.5 Swing yarder is shutdown in accordance with the manufacturer's requirements and worksite procedures.

### Outcome 4

Demonstrate knowledge of swing yarder machine capabilities.

#### Performance criteria

4.1 Factors that influence payload in terms of swing yarder and/or harvesting system capabilities are explained in accordance with accepted industry practice and the manufacturer's requirements.

- 4.2 Symptoms of overloading the swing yarder are explained in accordance with the manufacturer's requirements.
- Range includes but is not limited to – engine stalling, torque converter stalling, inability to pull drag, guyline tension, guyline anchor movement, swing yarder stability.
- 4.3 The type of braking system used, and the method of holding tension in the wire ropes are identified in accordance with the manufacturer's requirements.
- 4.4 Boom inclination is explained in terms of inclination angles needed to meet operational requirements in accordance with the manufacturer's requirements and worksite procedures.
- 4.5 Maximum lead limits are described in accordance with manufacturer's specifications.

## Outcome 5

Operate a swing yarder to extract stems.

### Performance criteria

- 5.1 The safe retreat position and procedures for the operation are identified and complied with in accordance with accepted industry practice.
- 5.2 Operation of swing yarder is monitored and controlled in accordance with accepted industry practice and manufacturer's requirements.
- Range in-haul and out-haul, stropping or grapple placement, positioning wire rope and rigging, raising and tensioning wire ropes, clearing obstructions, fleeting wire ropes on drums, working within operational limitations, pull-line angle.
- 5.3 Swing yarder power and rigging speed appropriate for load-size and conditions are maintained in accordance with the manufacturer's requirements.
- Range safety of workers, environmental constraints, stem movement, control, ability to swing, chute size, skid size and layout.
- 5.4 Landing layout is explained in terms of the location of the swing yarder, landing zones and guylines.
- 5.5 Drag break-out is managed by responding to breaker-out or spotter communication in accordance with accepted industry practice.
- Range drag size, interlock, clear communication.

5.6 Wire ropes and rigging are monitored for defects or failure during operation in accordance with worksite procedures.

Range includes – wire rope condition, splices, shackles, grommets, wrapping;  
may include – grapple, carriages, butt rigging.

5.7 Communication is maintained between worksite personnel and the swing yarder machine operator in accordance with worksite procedures.

Range Talkie tooters, RTs.

5.8 Extraction of stems is carried out to meet job prescription requirements.

Range requirements include – environmental, production, quality, safety.

## Outcome 6

Carry out general swing yarder operator responsibilities.

### Performance criteria

6.1 Swing yarder operator's cab and engine compartments are cleared of debris and loose equipment in accordance with worksite procedures.

6.2 Fire extinguishers are checked to meet operational requirements in accordance with worksite procedures.

Range charged, suitable, secured, within servicing requirements.

6.3 The swing yarder log-book is maintained in accordance with worksite procedures.

6.4 Anchor and guyline checks are carried out and documented daily 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	8 December 2011	31 December 2017
Review	2	10 December 2015	N/A
Review	3	23 January 2020	N/A
Rollover	4	26 April 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.