

Title	Operate a Bell machine in a forest or a log yard		
Level	4	Credits	5

Purpose	People credited with this unit standard are able to: demonstrate knowledge of Bell machines and their capabilities and limitations; conduct pre-start and maintenance checks prior to operating a Bell machine; start up a Bell machine; demonstrate knowledge of hazards and risks specific to operating Bell machines, and operate a Bell machine; and shut down a Bell machine.
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Classification	Forestry > Machine Operations - Forestry
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Available grade	Achieved
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Guidance Information

1 Assessment information

This unit standard must be assessed on-job.

All activities and evidence must meet worksite procedures and accepted industry practice.

This unit standard may be used to assess the operation of three wheeled machines including the Bell Ultra Logger and the Bell Logger.

2 Definitions

Accepted industry practice refers to approved codes of practice and standardised procedures accepted by the wider forestry industry as examples of best practice.

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.

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.

3 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.

4 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>.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of Bell machines and their capabilities and limitations.

Performance criteria

- 1.1 Factors that influence the locations and topography where Bell machines can be operated are explained in accordance with manufacturer's recommendations.
- 1.2 The capabilities and limitations of Bell machines are described in accordance with the manufacturer's recommendations.
- Range ground conditions, slope, load size.
- 1.3 The operation of Bell machine is explained.
- Range protective structures, seat belts, night work, guarding, operating on slopes, emergency exits.

Outcome 2

Conduct pre-start and maintenance checks prior to operating a Bell machine.

Performance criteria

- 2.1 PPE is worn.
- 2.2 Pre-start checks are performed in accordance with the manufacturer's recommendations.
- Range may include but is not limited to – fluid levels, cooling system, jockey wheel security, operator protection structures, machine guarding, safety features, hydraulic hose condition, fire suppression, equipment in operator cab, operator visibility, debris in engine compartment; evidence of ten is required.
- 2.3 Daily maintenance of the Bell machine is performed in accordance with manufacturer's recommendations.

Outcome 3

Start up a Bell machine.

Performance criteria

- 3.1 Machine warning indicators are explained and rectifying action described, in accordance with the manufacturer's recommendations.
- Range may include – warning lights, low engine oil pressure, oil filter replacement, engine cut-out device.
- 3.2 The machine is started and warmed up in accordance with the manufacturer's recommendations.
- 3.3 Warning indicators are checked and corrective action is taken when necessary in accordance with manufacturers recommendations.

Outcome 4

Demonstrate knowledge of hazards and risks specific to operating Bell machines, and operate a Bell machine.

Performance criteria

- 4.1 The hazards and associated risks specific to operating Bell machines are described and ways to control these are explained.
- Range slopes, ground conditions, soil moisture, obstacles on the ground, debris, travel speed, machine instability, machine suitability and state of repair, proximity of other workers, restricted visibility.
- 4.2 The reason for on-going hazard and risk identification is explained.
- 4.3 Factors that may change hazards or introduce new hazards or risks are described.
- Range weather, change of landing layout, change of location.
- 4.4 The machine is operated within its limitations and operator capabilities.
- Range machine manoeuvring, boom and extension movement, turning on varying terrain conditions, operating attachment, log handling, travel speeds.
- 4.5 Swing and position of suspended logs is controlled by movement of the boom and grapple.

Outcome 5

Shut down a Bell machine.

Performance criteria

5.1 The machine is parked in accordance manufacturer's recommendations.

Range level ground, clear of debris, brake applied, attachments lowered to the ground.

5.2 The machine engine is idled down in accordance with manufacturer's recommendations.

5.3 Post-operational checks on the machine are carried out.

Range may include but is not limited to – wear on components, damage to components, hydraulic leaks, structural damage, tyre condition, hydraulic fluid level; evidence of six is required.

Planned review date	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 November 1996	31 December 2012
Revision	2	19 June 1998	31 December 2012
Review	3	5 December 2000	31 December 2012
Review	4	22 May 2008	31 December 2013
Revision	5	15 September 2011	31 December 2016
Review	6	19 March 2015	N/A
Review	7	25 June 2020	N/A
Rollover	8	26 April 2024	N/A

Consent and Moderation Requirements (CMR) reference	0173
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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 Muka Tangata - People, Food and Fibre Workforce Development Council qualifications@mukatangata.nz if you wish to suggest changes to the content of this unit standard.