

<b>Title</b>	<b>Operate a forwarder in a forest harvesting operation</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>5</b>

<b>Purpose</b>	<p>This unit standard is intended for people employed in a forwarder operator role in a forest harvesting operation.</p> <p>People credited with this unit standard are able to: demonstrate knowledge of forwarders and their capabilities and limitations; conduct pre-start and maintenance checks prior to operating a forwarder; start up a forwarder; demonstrate knowledge of hazards and risks specific to operating forwarders and operate a forwarder; and shut down a forwarder.</p>
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<b>Classification</b>	Forestry > Forest Mechanised Harvesting
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<b>Available grade</b>	Achieved
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### Guidance Information

#### 1 Assessment information

This unit standard must be assessed on-job and the operator must meet the production requirements of the operation.

#### 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.

*Forest harvesting* refers to the felling and extraction of stems, landing operations, log making, and loading.

*PPE* refers to personal protective equipment and may include but is not limited to high-visibility clothing, 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 forwarders and their capabilities and limitations.

#### Performance criteria

- 1.1 Factors that influence the locations and conditions where forwarders can be operated are explained in accordance with the manufacturer's recommendations and accepted industry practice.
- 1.2 Components of forwarders are identified, and their functions are explained in accordance with manufacturer's recommendation.
- Range may include but is not limited to – crane, king post, extension, grapple, rotator, steps, headboard, stanchion pins, bunk, pivot steer, oscillation, frame brake, bogie, tyre chains; evidence of fourteen is required.
- 1.3 The capabilities and limitations of forwarders are described in accordance with the manufacturer's recommendations and worksite procedures.
- Range ground conditions, slope, load size, position for loading, loading direction, crane reach, grapple size, bunk capacity, wheel configuration.
- 1.4 Indications of forwarder crane overloading are explained in accordance with the manufacturer's recommendations.
- Range machine stability, frame brake over-ride, relief valve activation.
- 1.5 The operation of forwarders is explained in accordance with accepted industry practice.
- 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 forwarder.

#### Performance criteria

- 2.1 PPE is worn in accordance with the worksite procedures.

2.2 Pre-start checks are performed in accordance with the manufacturer's recommendations and worksite procedures.

Range may include but is not limited to – fluid levels, operator protection structures, machine guarding, safety features, crane and grapple, cab guard, bunk and stanchions, wheels and tyres, hydraulic hose condition, fire suppression, access ladder, equipment in operator cab, operator visibility, debris in engine compartment; evidence of ten is required.

2.3 Access and egress methods are demonstrated in accordance with accepted industry practice.

Range facing machine, three point contact, step and grab rail condition.

2.4 Means of communication is checked for service, channel selection and preparedness for use in accordance with worksite procedures.

2.5 Daily maintenance of the forwarder is performed in accordance with the manufacturer's recommendations and worksite procedures.

### Outcome 3

Start up a forwarder.

#### Performance criteria

3.1 Machine warning indicators are explained, and rectifying actions described, in accordance with the manufacturer's recommendations.

Range may include – high oil or water temperature, low oil levels, low engine oil pressure, diff lock engagement, air pressure, oil filter replacement, park brake status, ladder status.

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 forwarders and operate a forwarder.

**Performance criteria**

4.1 Hazards specific to operating forwarders are described and ways to manage these explained, in accordance with accepted industry practice and worksite procedures.

Range slopes, track edges, ground conditions, soil moisture content, obstacles on the ground, debris, speed, machine instability, machine size, restricted manoeuvrability, mechanical failure, proximity of other workers, restricted visibility.

4.2 The reason for on-going hazard and risk identification is explained in accordance with accepted industry practice.

4.3 Factors that may change hazards or introduce new hazards are described in accordance with accepted industry practice.

Range weather, terrain.

4.4 The forwarder is operated within its limitations and operator capabilities in accordance with the manufacturers recommendations, accepted industry practice and worksite procedures.

Range travel speeds, manoeuvring machine, turning on slopes, negotiating uneven ground, machine positioning, application of frame brake, door closed, use of safety devices.

4.5 Loads are accumulated, or functions carried out with controlled use of crane, extension, and attachment.

4.6 Stability is maintained by ensuring suspended loads are kept within the machine's centre of gravity.

**Outcome 5**

Shut down a forwarder.

**Performance criteria**

5.1 The forwarder is parked in accordance with worksite procedures and manufacturer's recommendations.

Range level ground, clear of debris, attachments lowered to the ground or positioned on the bunk.

5.2 The forwarder is shut down in accordance with the manufacturer's recommendations.

Range may include but is not limited to – transmission in neutral, brakes applied, engine idled down, turbo timer used.

- 5.3 Post-operational checks on the forwarder are carried out in accordance with accepted industry practice and worksite procedures.

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

<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 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 2012
Revision	5	16 July 2010	31 December 2013
Revision	6	15 September 2011	31 December 2016
Review	7	19 March 2015	N/A
Review	8	25 June 2020	N/A
Rollover	9	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>.

#### 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.