Title: Operate a self-levelling machine in a forestry operation

Level: 4
Credits: 5

Purpose: This unit standard is intended for people operating self-levelling machines in a forestry operation.

People credited with this unit standard are able to: demonstrate knowledge of self-levelling machines for forestry operations; conduct pre-start and maintenance checks prior to operating a self-levelling machine; start up a self-levelling machine; operate a self-levelling machine for forestry operations; and shut down a self-levelling machine.

Classification: Forestry > Machine Operations - Forestry

Available grade: Achieved

Explanatory notes

1 Demonstration of competence must take place on a slope of 20 degrees or greater.

2 Definitions

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

   PPE – personal protective equipment and may include but is not limited to protective clothing, gloves, safety glasses, headwear, footwear, hearing protection, and safety devices.

   Worksite procedures – 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 evidence requirements

Outcome 1

Demonstrate knowledge of self-levelling machines for forestry operations.

Evidence requirements

1.1 The advantages and disadvantages of using a self-levelling machine are explained in accordance with worksite procedures.
1.2 The limitations of self-levelling machines are described in accordance with manufacturer’s recommendations and worksite procedures.

Range ground surface conditions, slope, load size.

1.3 Control and steering of a self-levelling machine is described in accordance with manufacturer’s recommendations and worksite procedures.

Range slow speed, high speed, on varying slope classes with payload and without payload, slewing ability, awareness of track orientation relative to cab.

1.4 The mechanism for maintaining cab stability in the event of a failure in the self-levelling system is explained.

Outcome 2

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

Evidence requirements

2.1 PPE is worn in accordance with accepted industry practice.

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

Range may include but is not limited to - fluid levels, operator protection structures, self-levelling mechanism, means of communication, machine guarding, safety features, hydraulic hose condition, fire suppression, equipment in operator cab, operator visibility, debris in engine compartment; evidence of 10 is required.

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

2.4 Daily maintenance of the self-levelling machine is performed in accordance with the manufacturer’s instructions and worksite procedures.

2.5 Means of communication with other workers is checked for suitability in accordance with worksite procedures.

2.6 Fire extinguishers meet operational requirements in accordance with worksite procedures.

Range charged, secured.
Outcome 3
Start up a self-levelling machine.

Evidence requirements

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

Range may include – high oil or water temperature, low oil levels, low engine oil pressure, oil filter replacement, computer equipment.

3.2 Machine is started and warmed up in accordance with manufacturer's recommendations.

Outcome 4
Operate a self-levelling machine for forestry operations.

Evidence requirements

4.1 Hazards specific to operating self-levelling machines are described and ways to manage these are explained in accordance with accepted industry practice.

Range steep slopes, travelling downhill, track edges, unstable ground conditions, high soil moisture content, obstacles on the ground, debris, excessive speed, machine instability, proximity of other workers, restricted visibility.

4.2 The reason for on-going hazard 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, production requirements.

4.4 Machine is operated within its limitations and operator capabilities in accordance with accepted industry practice.

Range machine manoeuvring, boom and stick movement, slewing on varying slope and terrain conditions, operating attachment, log handling, travel speeds.

4.5 Swing and movement of suspended trees or logs is minimised by controlled movement of the boom and attachment.

4.6 Terrain is negotiated and unfavourable ground conditions are identified and overcome in accordance with accepted industry practice.

4.7 Communication is maintained with other workers using recognised forest industry signals.
4.8 Machine is readied to be left unattended with the engine running in accordance with manufacturer’s instructions and accepted industry practice.

Outcome 5
Shut down a self-levelling machine.

Evidence requirements

5.1 The self-levelling machine is parked in accordance with operational procedures and manufacturer’s instructions.

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

5.2 Self-levelling machine is shut down in accordance with manufacturer's recommendations.

Range may include but is not limited to – brakes applied, hydraulic system disengaged, engine idled down, turbo timer used.

5.3 Post-operational checks are carried out on a self-levelling machine in accordance with accepted industry practice.

Range may include but is not limited to – wear on components, damage to components, hydraulic leaks, structural damage, hydraulic fluid level.

5.4 Operator and engine compartments are cleared of debris and loose equipment.

Planned review date 31 December 2020

Status information and last date for assessment for superseded versions

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

Please note
Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.
Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMR). The CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

Comments on this unit standard

Please contact Competenz at qualifications@competenz.org.nz if you wish to suggest changes to the content of this unit standard.