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| Title | Demonstrate knowledge of, and undertake, basic repairs and maintenance on a forestry industry machine | | |
| Level | 3 | Credits | 10 |

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| Purpose | <p>This unit standard is intended for people operating machinery in a forestry operation.</p> <p>People credited with this unit standard are, for a forestry industry machine, able to: demonstrate knowledge of basic repairs and maintenance; undertake basic checks and servicing; undertake basic maintenance; demonstrate and apply knowledge of basic hydraulic repairs; and explain electrical maintenance procedures.</p> |
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| Classification | Forestry > Machine Operations - Forestry |
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| Available grade | 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 Forestry industry machines may include – knuckle boom loaders, excavator based machines with purpose built land preparation attachments, excavator based machines with processing and/or felling heads, track type machines, skidders, forwarders, bell machines, rubber tyre forked loaders, cable yarders, swing yarders and harvestlines; evidence of one is required.
- 4 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 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.

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

Demonstrate knowledge of basic repairs and maintenance on a forestry industry machine.

Performance criteria

- 1.1 The risks specific to maintaining a forestry industry machine are identified, and methods to control them are explained in accordance with accepted industry practice.

Range evidence of four risks and a control method for each is required.
- 1.2 Scheduled servicing and preventative maintenance are explained in accordance with worksite procedures.
- 1.3 Basic maintenance and general operator responsibilities are explained in accordance with the manufacturer's recommendations and worksite procedures.
- 1.4 The importance of adhering to worksite procedures and the manufacturer's recommendations is explained in terms of impact on machinery working parts and life.
- 1.5 Oil types for the forestry industry machines are identified and the importance of using the correct oil type is explained in accordance with manufacturer's recommendations.

Range engine, hydraulic, gear.
- 1.6 Oil change requirements are explained in accordance with manufacturer's recommendations and worksite procedures.

Range service schedule, waste oil disposal, oil specifications, documentation.
- 1.7 The reason and requirements for cleaning a machine before it is removed from site is explained.
- 1.8 PPE and equipment required when undertaking basic repairs and maintenance are identified and described in terms of the work being undertaken.

Outcome 2

Undertake basic checks and servicing on a forestry industry machine.

Performance criteria

- 2.1 Filters are checked in accordance with manufacturer's recommendations and worksite procedures.

Range fuel, oil.
- 2.2 Air filter is cleaned and the reason for doing this regularly is explained.
- 2.3 Machine is greased in accordance with the manufacturer's recommendations and worksite procedures.
- 2.4 Machine is started after the service and oil pressure checked.

Outcome 3

Undertake basic maintenance on a forestry industry machine.

Performance criteria

- 3.1 Pins, nuts, guarding, and bolts are checked for wear and replaced when required in accordance with manufacturer's recommendations and worksite procedures.
- 3.2 Tracks are adjusted, or tyre pressures checked and adjusted, in accordance with manufacturer's recommendations and worksite procedures.
- 3.3 Additional maintenance requirements are reported and actioned in a timely manner in accordance with worksite procedures.
- 3.4 Damaged non-hydraulic hoses are replaced in accordance with manufacturer's recommendations and worksite procedures.

Outcome 4

Demonstrate and apply knowledge of basic hydraulic repairs on a forestry industry machine.

Performance criteria

- 4.1 Hydraulic hoses and hose fittings are identified and explained in terms of their intended use.

Range construction, pressure rating, couplings.
- 4.2 Machine hydraulic system is de-pressurised in accordance with manufacturer's recommendations and worksite procedures.

- 4.3 The site procedure for changing hoses is described in accordance with manufacturer's recommendations and worksite procedures.

Outcome 5

Explain electrical maintenance procedures on a forestry industry machine.

Performance criteria

- 5.1 De-energising an electrical system on a forestry industry machine is explained in accordance with manufacturer's recommendations and worksite procedures.
- 5.2 Basic maintenance on a forestry industry machine electrical system is explained in accordance with manufacturer's recommendations and worksite procedures.

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| Planned review date | 31 December 2024 |
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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 2013 |
| Review | 2 | 18 April 2013 | 31 December 2017 |
| Review | 3 | 10 December 2015 | N/A |
| Review | 4 | 26 March 2020 | N/A |

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