

Title	Maintain a chainsaw		
Level	3	Credits	10

Purpose	People credited with this unit standard are able to: demonstrate knowledge of a chainsaw cutting unit; sharpen a chainsaw chain; and check and maintain a chainsaw.
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Classification	Forestry > Forest Operations
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Available grade	Achieved
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Guidance Information

- 1 A worn chain must be used to demonstrate sharpening.
- 2 Definition
Accepted industry practice – documented codes of practice and standardised procedures accepted by the wider forestry industry as examples of best practice.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of a chainsaw cutting unit.

Performance criteria

- 1.1 Chain components are identified, and their function described in accordance with accepted industry practice.

Range cutters, tie straps, drive links, rivets, depth gauges.
- 1.2 Cutter profiles are identified and compared in terms of use and cutting speed in accordance with accepted industry practice.

Range chisel, semi-chisel.
- 1.3 Sprocket sizes are explained in terms of their impact on saw performance.
- 1.4 The terms *pitch* and *gauge* are explained in relation to a chainsaw chain in accordance with accepted industry practice.

- 1.5 The reasons that cutting unit components must be matched are explained in accordance with accepted industry practice.
- Range sprocket and chain for pitch, bar and chain for gauge.
- 1.6 Tools for sharpening a chainsaw chain are identified and described in accordance with accepted industry practice.
- Range depth gauge tool, file guide, stump vice, flat file, round file.
- 1.7 Maintenance requirements of a sprocket tip chainsaw bar are described in accordance with accepted industry practice.
- 1.8 The main causes of cutting unit faults are identified and corrective maintenance for each fault is explained in accordance with accepted industry practice.
- Range cutting unit faults – cuts are not straight, cutting is aggressive, slow cutting, excessive sawdust, chain overheating, chain locks into sprocket, excessive bar wear, saw jams during cutting.
- 1.9 Requirements for running in a new chain are explained in accordance with manufacturer's recommendations.
- 1.10 Consequences resulting from using a poorly maintained chain are described in terms of effects on operator, maintenance and production.

Outcome 2

Sharpen a chainsaw chain.

Performance criteria

- 2.1 A location to carry out chainsaw sharpening is selected that is safe, level and clear of natural and operational hazards.
- 2.2 Chain is sharpened, on the saw, in accordance with accepted industry practice.
- Range tension, file size, use of filing aids, uniform cutter length, file angles, depth gauge settings.
- 2.3 Sharpened chain is tested in accordance with accepted industry practice.
- Range straight cuts, even cutting, cutting efficiency.

Outcome 3

Check and maintain a chainsaw.

Performance criteria

3.1 Routine checks and maintenance requirements, and their recommended frequency are described in accordance with manufacturer's recommendations and accepted industry practice.

Range daily requirements, weekly requirements, monthly requirements.

3.2 Chainsaw is checked and maintained in accordance with accepted industry practice and manufacturer's recommendations.

Range air filter, guide-bar, clutch drum bearing, clutch springs, spark plug, cooling system, starter mechanism, spark arrester.

3.3 Tools suitable for chainsaw maintenance are identified and used in accordance with manufacturer's recommendations.

3.4 Potential causes of chainsaw faults are identified and methods to rectify faults are explained in accordance with accepted industry practice and manufacturer's recommendations.

Range chainsaw faults – saw not idling, saw not starting, saw idling too fast, excessive smoke, saw not reaching maximum revolutions, saw not stopping when turned off, chain brake not engaging, chain alternating between loose and tight on the bar, saw stalling.

3.5 Chainsaw is reassembled to safe working condition in accordance with chainsaw manufacturer's recommendations.

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	6 September 1993	31 December 2011
Review	2	28 September 1995	31 December 2011
Review	3	8 November 1996	31 December 2011
Revision	4	19 June 1998	31 December 2011
Review	5	5 December 2000	31 December 2011
Review	6	22 May 2008	31 December 2012
Review	7	19 November 2010	31 December 2017
Review	8	10 December 2015	N/A
Review	9	26 March 2020	N/A
Rollover	10	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.