



Australian Government

Department of Education, Employment and Workplace Relations

RTC2304A Operate and maintain chainsaws

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This competency standard covers the maintenance, preparation and operation of hand-held chainsaws in a work environment. It requires the application of skills and knowledge to cross-cut fallen timber using appropriate cutting techniques to maximise volume and quality recovery. It also requires knowledge of licensing and OHS legislative requirements associated with chainsaw operation along with duty of care to self, others and the environment. The work in this standard is likely to be carried out under routine supervision with intermittent checking within enterprise guidelines.

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Application of the Unit

Not applicable.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not applicable.

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

Elements and Performance Criteria

Element	Performance Criteria
1 Recognise and apply workplace safety procedures	<p>1.1 OHS procedures relevant to the maintenance and operation of chainsaws are recognised and applied according to enterprise requirements.</p> <p>1.2 Hazards in the work area are identified and controlled according to OHS and enterprise requirements.</p> <p>1.3 Suitable personal protective equipment is selected, used, maintained and stored according to OHS and enterprise requirements.</p> <p>1.4 Relevant licensing and legislative requirements with regard to the operation of chainsaws are recognised and accessed.</p>
2 Check and maintain chainsaw	<p>2.1 Tools and materials required for maintenance procedures are selected, checked and confirmed against maintenance plan.</p> <p>2.2 Routine checks and maintenance procedures are conducted prior to operation and according to manufacturers specifications and maintenance plan.</p> <p>2.3 Chainsaw faults or malfunctions are identified, tagged and reported for repair according to OHS and enterprise requirements.</p> <p>2.4 Completed chainsaw maintenance procedures are detailed and recorded according to enterprise requirements.</p>
3 Operate chainsaw	<p>3.1 A safe working site is maintained and sawing materials identified and positioned for operation according to OHS and enterprise guidelines.</p> <p>3.2 Risks to self, others and the environment are recognised and controlled according to OHS and enterprise requirements.</p> <p>3.3 Cutting methods are determined appropriate to species of material, and chainsaw is operated according to manufacturers specifications and</p>

- enterprise requirements.
- 3.4 Effective **worksite communication** is maintained to ensure efficient workflow and address immediate problems.
 - 3.5 **Environmental implications** associated with chainsaw operation are identified, assessed and controlled according to enterprise requirements.
- 4 Complete and check chainsaw operation
- 4.1 Chainsaw damage, malfunctions or irregular performance are recorded and reported according to enterprise requirements.
 - 4.2 Chainsaw is cleaned, maintained and stored according to manufacturers specifications and enterprise requirements.
 - 4.3 Relevant **reports** are maintained to industry standards according to enterprise requirements.
 - 4.4 Personal protective equipment is cleaned, maintained and stored.

Required Skills and Knowledge

Not applicable.

Evidence Guide

What evidence is required to demonstrate competence for this standard as a whole?

Competence in this standard requires evidence of the ability to demonstrate safe workplace practices in the preparation of a suitable worksite, perform cross-cutting operations, and conduct routine pre-operational checks and maintenance of a range of hand-held chainsaws. It also requires the ability to communicate effectively, recognise and control hazards, implement risk control measures, apply basic mathematical procedures such as estimation and measurement, and monitor and maintain relevant enterprise records. The skills and knowledge required to operate and maintain chainsaws must be **transferable** to a different work environment. For example, this could include different types of timber, environments and chainsaws.

What specific knowledge is needed to achieve the performance criteria?

Knowledge and understanding are essential to apply this standard in the workplace, to transfer the skills to other contexts and to deal with unplanned events. The knowledge requirements for this competency standard are listed below:

Relevant State/Territory legislation and regulations with regard to the operation of chainsaws.

OHS legislative requirements and Codes of Practice.

Hazards and risks when using chainsaws.

Operating principles and operating methods.

Various types of chainsaws and respective functions.

Effects of timber defects on recovery.

Environment Codes of Practice with regard to chainsaw operation.

What specific skills are needed to achieve the performance criteria?

To achieve the performance criteria, appropriate literacy and numeracy levels as well as some complementary skills are required. These include the ability to:

Safely cross-cut fallen timber using compression and tension cuts with a hand held chainsaw.

Maximise volume and quality of recovery.

Demonstrate safe and environmentally responsible workplace practices.

Obtain relevant licences and permits.

Read and interpret manufacturers specifications, work and maintenance plans, and MSDSs.

Effectively communicate information, interpret and apply task instructions, and maintain records and reports.

Estimate and measure dimensions, and calculate volumes.

What processes should be applied to this competency standard?

There are a number of processes that are learnt throughout work and life, which are required in all jobs. They are fundamental processes and generally transferable to other work functions. Some of these are covered by the **key competencies**, although others may be added. The questions below highlight how these processes are applied in this competency standard. Following each question a number in brackets indicates the level to which the key competency needs to be demonstrated where 0 = not required, 1 = perform the process, 2 = perform and administer the process and 3 = perform, administer and design the process.

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| 1. How can communication of ideas and information (1) be applied? | Information with regard to chainsaws, their application and cutting methods may be discussed with the supervisor and others in the work group. |
| 2. How can information be collected, analysed and organised (1) ? | Information with regard to chainsaw performance, faults and maintenance requirements may be detailed and monitored for analysis, and organised by records and reports. |
| 3. How are activities planned and organised (2) ? | Checks and maintenance activities may be planned and coordinated around work schedules or sequenced as required. |
| 4. How can team work (1) be applied? | Team work may be applied in the communication and coordination of tasks to achieve specified work requirements. |
| 5. How can the use of mathematical ideas and techniques (2) be applied? | Mathematics may be applied in the calculation and measurement of fuel consumption and volume dimensions. |
| 6. How can problem-solving skills (2) be applied? | Chainsaw malfunctions or breakdown will require arrangements for repair or replacement to meet work requirements. |
| 7. How can the use of technology (1) be applied? | To communicate, record operational records, and troubleshoot chainsaw performance problems. |

Are there other competency standards that could be assessed with this one?

This competency standard **could** be assessed on its own or in combination with other competencies relevant to the job function.

There is essential information about **assessing this competency standard for consistent performance** and **where and how it may be assessed**, in the Assessment Guidelines for this Training Package. All users of these competency standards must have **access** to both the **Assessment Guidelines** and the relevant **Sector Booklet**.

Range Statement

Range of Variables

The Range of Variables explains the range of contexts within which the performance and knowledge requirements of this standard may be assessed. The scope of variables chosen in training and assessment may depend on the work situations available

What **OHS** requirements may be relevant to this standard?

Safe systems and procedures for:

- operating and maintaining chainsaws

- hazard and risk control

- manual handling including lifting and carrying

- handling, application and storage of hazardous substances

- outdoor work including protection from solar radiation, dust and noise

- the appropriate use, maintenance and storage of personal protective equipment.

It may also include systems to ensure the assessment of workers safety skills, compliance with enterprise OHS induction, and the provision of appropriate training programs.

What types of **chainsaws** may be applicable to this standard?

Types may include engine or electrically operated hand-held chainsaws including top handle chainsaws and pole saws.

What **enterprise requirements** may be applicable to this standard?

Standard Operating Procedures (SOPs), industry standards, production schedules, Material Safety Data Sheets (MSDSs), work notes and plans, product labels, manufacturers specifications, operators' manuals, enterprise policies and procedures (including waste disposal, recycling and re-use guidelines), and supervisors oral or written instructions.

What **hazards** may be associated with chainsaw operation?

Hazards may include exposure to loud noise and exhaust fumes, cutting of treated timbers, solar radiation, dust, mechanical vibration, vibration injury, struck by tree or tree limbs, kick back from saw, presence of dangerous insects and spiders, hazardous substances (fuel), the presence of bystanders,

	livestock and wildlife, adverse weather conditions and confined spaces.
What personal protective equipment may be relevant to this standard?	PPE may include steel cap boots, hard hat, ear protection, protective eyewear, hearing protection, cut resistant trousers or chaps, reflective vest, gloves, helmets with face masks, and sun protection (e.g., sun hat, sunscreen).
What information might be included in a maintenance plan ?	This may include details of scheduled pre-operational checks and maintenance procedures, designated job tasks, selection of equipment, resources and materials to be used, supervisors instructions, timeframe for work completion, and reporting requirements.
What might be involved in routine checks and maintenance procedures?	This may include pre-start checks, inspections of chainsaw body, chain guards and chain sprockets, checks of air filters and spark plugs, checks and adjustments of chain tension, oil and fuel, and the replacement of worn or faulty parts. It may also include an assessment of saw sharpness.
What are the requirements for a safe working site ?	A level and clear surface on which to cut the material, and the regular removal of off-cuts and other debris during sawing operations to maintain surfaces and worksite.
What sawing materials may be identified and positioned?	Sawing materials may include logs and packs of timber (hardwood or softwood), and may range in size and weight. Preparation involves the safe lifting of the material to be sawed onto a clear and level surface and securing into position with chains or wedges.
What risks may be associated with the operation of chainsaws?	This may include 'kickback' which is a sudden upward and backward movement of the saw which occurs when the tip of the bar nose makes contact with the sawing material. To prevent kickback, ensure chainsaw is fitted with an inertia-activated chain break, ensure the break mechanism is clean and operates effectively, use low-kickback chain types and avoid lowering the depth gauges too much when sharpening. Risks may also include being stuck by tree or limb, vibration

injury from poorly maintained chainsaw, permanent hearing loss, cutting above shoulder height, handling the chainsaw with one hand, and fire risk as a result of fuel spillage or sparks.

What **cutting methods** and procedures may be considered?

Types of cutting techniques may include bridging, swinging, boring, limbing and horizontal cuts. Procedures may involve a visual assessment of the sawing material for defects, the selection of cutting positions and patterns to minimise capping and splitting, and maximise volume and quality of recovery.

Who might be involved in the facilitation of **worksite communication**?

This may include the supervisor and other workers.

What **environmental implications** may be associated with the operation of chainsaws?

Negative environmental impacts may result from excessive noise and exhaust emissions, the incorrect use and disposal of maintenance debris (oils and oil containers), and hazardous substances (fuel).

What **reports** may be recorded and maintained?

This may include production and tally sheets, quality forms, production sheets, mandatory or statutory inspections, maintenance outcomes, faults, malfunctions and damage details, and hazard and incident reports.

For more information on contexts, environment and variables for training and assessment, refer to the Sector Booklet.

Unit Sector(s)

Not applicable.