

Log splitter hazard - bulletin

Log splitters are a significant cause of workplace injuries due to workers having access to the point of operation. Options for safeguard and engineering controls are available to ensure the safety of users of splitters.

Who should read this?

- Designers, manufacturers and suppliers of log splitters
- Rental operators
- Employers using log splitters
- Users of log splitters including schools, sport clubs and general public.

Introduction

Fourteen incidents involving log splitters have been reported since February 2015. The incidents have resulted in amputations, fractures or serious crush injuries to farm workers, students and volunteers.

The circumstances

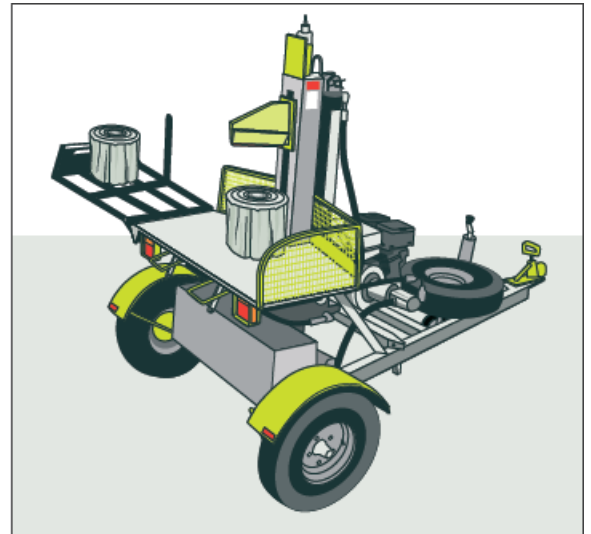
It appears that there are two common types of incidents that have caused injuries:

1. Two people are operating a log splitter, and while one person loads log rings onto the machine, the second person operates the controls. There is a misjudgement of timing and the person loading the rings gets a hand caught by the wedge and plate.
2. The person holding the timber during splitting misjudges the hand position in the trapping area resulting in an injury.

The hazards

Log splitters generally utilise a hydraulic ram to force a steel wedge through a log ring against a steel plate and are either vertically or horizontally oriented.

The hydraulic ram travel is controlled by a foot or hand control. Often these controls are located close to the pinch point and in addition may be operated accidentally if not properly shrouded. Knee operated control is not permitted on log splitters.



How to keep safe

Safe operation

The operator must not have access to moving parts. Log splitters that have exposed pinch point(s) (between the log ring and the plate and/or the steel wedge) can endanger the operator or assistant. Fixed guard solutions and safeguards such as interlocked movable guards and two-hand hold-to-run controls that prevent access to the point of operation should be used.

Safe design and manufacturing

The designer and manufacturer need to make sure that the log splitter is designed and manufactured in accordance with the appropriate standards for machine guarding, such as AS/NZS 4024.1 (Series) Safety of Machinery or equivalent.

For guidance on guarding see the WorkSafe Best Practice Guidelines: Safe Use of Machinery which describes how to comply with AS/NZS 4024.1 (Series) Safety of Machinery.

The log splitter should have fixed or interlocked movable guarding for the moving wedge or axe, rotating screw, pressure plate areas and any other trapping points in both directions.

The guarding should:

- protect hands and fingers that are free from the controls but may be on the crush zone during the log-splitting action
- protect against the potential crush hazard on the return stroke – eg if wood is jammed
- provide protection to the operator's feet during splitting operations.

If it is not practicable to isolate the operator from harm by using mechanical guarding, two-handed controls meeting the following safety measures should be adopted:

- The manual splitting control levers or buttons should be located so:
 - the operator has an unobstructed view of the splitting action and confirmation that no other person is at risk of harm
 - the operator cannot reach the danger points while operating the controls
 - they cannot be operated accidentally and appropriate shrouding should be provided, and
 - they cannot be made ineffective by tie-down devices or other means.

The controls should:

- be of the hold-to-run type – ie the splitting action is stopped immediately if either of the controls are released
- not be able to be operated simultaneously with one hand or arm, or with other parts of the body
- not allow the wedge or axe or the pressure plate to return to the starting position if either of the controls is in the 'on' position or unless it is safe to do so without any risk.

The speed of the moving ram and cutter should be as slow as possible to prevent trapping; for example, 10 to 60 mm per second depending on the identified risks.

An adequate support or holding device should be provided for the log so that there is no need to hold the log to be split and also to prevent log or parts of it

falling onto the operator during, or after, the splitting process.

Where practicable, the rear and sides of the machine should always be guarded to prevent access to danger areas by other persons.

Advice for suppliers and hirers

The supplier or hirer must make sure that the machinery has been correctly assembled in accordance with the manufacturer's instructions and all safety devices, including interlocking, are functioning as intended.

The manufacturer's instructions and all other information relevant to the safe use of the log splitter must be provided at its point of supply or hire.

The supplier must make sure that the log splitter has guarding to prevent a person reaching into the danger area during operation by either providing:

- interlocked mechanical guarding or
- two handed controls and mechanical guarding to protect an assistant who may be exposed to harm during the log-splitting action and to protect against the potential crush hazard on the return stroke – eg if wood is jammed.

The log splitter should also be provided with:

- protection for the operator's feet during splitting operations
- adequate support or a holding device for the log
- where practicable, guarding for the rear and sides of the machine.

The supplier or hirer should instruct those purchasing or hiring log splitters in their safe operation. This instruction may take the form of a video or DVD, an instruction session, or an explanation of the manufacturer's safety instructions.

Advice for users

Users should:

- use and maintain the log splitter in accordance with the manufacturers' instructions
- check that all guarding and safety devices including interlocking guards are functioning correctly and not use the log splitter until any fault has been corrected
- not modify the log splitter without consultation and approval from the manufacturer and supplier
- note that, if a log splitter is not fully guarded by an interlocked guard and fixed guard, it should only be used by a single operator as any other person who assists to remove split wood is not protected by the two-handed controls.

Further information

Under the Health and Safety in Employment Act 1992, and Regulations 1995, if a person supplies or hires out machinery to another person, they have a duty to ensure it is safe.

The duty for hirers is to:

- find out whether the machinery will be used in a place of work and, if so, how, and
- take all practicable steps to ensure the machinery is safe for that use.

The duty for other suppliers of machinery that can be used in places of work is to take all practicable steps to ensure that the machinery is designed and made, and has been maintained, so it is safe. This applies to:

- any intended use the supplier knows of; and
- any use or misuse the supplier could reasonably expect.

Further information is available in:

- [Ergonomics of Machine Guarding Guide \[646 KB PDF\]](#)

[Best Practice Guidelines for the Safe Use of Machinery \[5.0 MB PDF\]](#)

[Wood Splitters: Industry Safety Standard/WorkCover NSW \[2.4 MB PDF\]](#)

Please note that this material is also only intended to provide general advice and does not constitute legal advice. You should make your own judgment about action you may need to take to ensure you have complied with your workplace health and safety obligations under the law.