

Reducing the risk of injury from spring-assisted folding stakes on log transport trailers

A worker was seriously injured while attempting to adjust the tension of a spring-assisted folding stake on a log transport trailer. The stake extension, which was unsecured, swung down and struck the worker. This bulletin explains the hazards and describes steps employers and contractors should take to reduce the risk of injury.

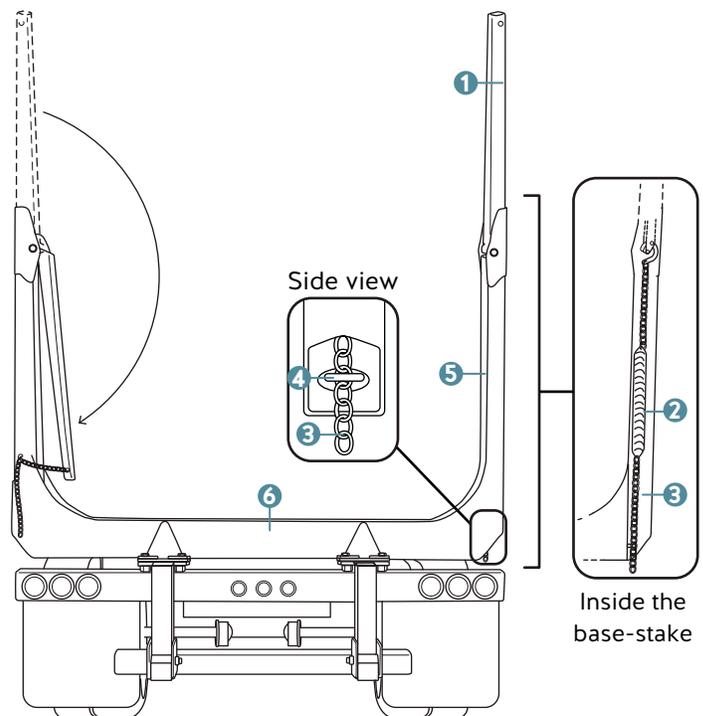
How spring-assisted folding stakes work

Log transport trailers have horizontal bunks with vertical stakes to cradle the log load. Some models of stakes include spring-assisted folding stake extensions. The ability to fold stakes allows the trailer sections to be stacked safely when empty and meet regulations for vehicle height.

Where the base-stake meets the stake extension, a spring mechanism allows the extension to fold down and to spring back to a vertical position. The spring mechanism, which consists of one or two springs, needs to be inspected and maintained regularly. Its tension should be adjusted periodically.

The spring mechanism is attached to a chain that runs down the hollow inside part of the base-stake. At the lower part of the base-stake, a link of the chain is secured to a hook-latch. The area around the hook-latch is exposed so a worker can adjust the spring tension. The worker does this by:

1. Detaching the chain link from the hook-latch using a purpose-built steel pry bar
2. Pulling the chain down to increase tension
3. Reattaching the chain to the latch on a new chain link



Spring-assisted stake extension parts

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|--------------------|--------------|
| 1 Stake extension | 4 Hook-latch |
| 2 Spring mechanism | 5 Base-stake |
| 3 Chain | 6 Bunk |

Recognizing the hazards

Before adjusting the spring tension of folding stakes, consider the following:

- If a stake extension isn't fully extended and isn't secured when it's vertical, it can fold down suddenly when a worker releases the spring tension.
- Some pry bars are not suited to the task.
- The risk of injury can increase due to:
 - Inadequate training
 - A lack of written safe work procedures or not following such procedures
 - Not using personal protective equipment

Safe work practices

Employers and contractors should do the following:

- Check with the trailer bunk and stake manufacturer for its procedures on how to adjust the spring tension of folding stakes. Follow those procedures, and ask the manufacturer the following questions:
 - Is there a specially designed tool and method for adjusting spring tension? If yes, is the tool clearly labelled with the brand or make of stakes it should be used with? Do you supply such a tool?
 - How would you recommend safely securing stake extensions before releasing spring tension? Can you supply a stake-securement device or a design for one to be purpose built?

- Conduct a risk assessment, and develop written safe work procedures for specific job tasks when working on log transport trailers.
 - Specify which equipment to use (e.g., custom-built stake extension securement tools). Make sure the equipment is labelled.
 - Identify safe work zones and "no-go" zones for specific tasks.
 - Identify actions that may lead to sprains, strains, and other musculoskeletal injuries. Take steps to reduce these risks.
- Train workers on how to adjust the spring tension of folding stakes. Only properly trained workers should do the adjustments.

For more information

WorkSafeBC's [Log transportation](#) and [Managing risk](#) pages have more information on reducing the risk of injury.

OHS Regulation requirements

- [Section 26.3, Training](#)
- [Section 26.66, Bunks and stakes](#)