



SAFER Cab Guard Research



Over the years there have been a number of serious logging truck driver injuries when the cab guard failed. Working with the University of Oregon, SAFER was successful in receiving research funding from WorkSafeBC to look into possible ways of improving the design of cab guards. Below is a summary of the research project from Professor Kevin Lyons. The full report will be available in the new year.

Log truck cab guards are a difficult structural problem, particularly for pole trailer configurations. The logs are restrained in the bunks by frictional forces and during sudden decelerations the logs can slide forward and impact the cab guard. The base of the cab guard is connected to the truck frame, and the guard will often extend 8 feet vertically from the base. The inertial load due to impact on the guard can be very high, and the vertical structure of the guard acts like a lever arm that magnifies the load applied to the base. For vehicle incidents that result in rapid decelerations, even when vehicle rollover does not occur, the impact of the logs on the guard can cause failure of the guard near the base with the result that the guard impacts the cab. Figure 1 indicates the regions of higher stress in the gusset and foot.

In this project we considered several ways to increase the performance of the cab guard for a pole trailer log truck. We considered increasing the dimensions of the foot (the bar at the base of the guard that is connected to the truck frame), the dimensions of the gusset (the knee that helps to support the guard during impact), the strength of the steel, and the use of an energy absorbing pad located on the load side of the guard. Increasing the foot dimensions did help to reduce the stress in the foot; however, this resulted in increased stress in the gusset. Increasing the gusset dimensions did not help greatly, the angle in the gusset creates a stress concentration that is difficult to reduce. Increasing the strength of the steel did not reduce the stress due to impact;

COVID 19
Province-wide restrictions
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New Videos Highlight the Hazards of Kinetic Energy

[Three new videos](#) aimed at manufacturing employers and workers describe potential and kinetic energy, and the hazards associated with them.

Potential energy is energy that is stored in an object and can be dangerous to workers when released unexpectedly. Kinetic energy is energy that is generated by an object in motion and may still be present in equipment after it has been shut down and locked out.

One of the videos [Kinetic Energy Risk Management: Case Study](#) showcases how one employer worked with B.C.'s Manufacturing Advisory Group (MAG) to reduce the risk of kinetic energy by implementing innovative controls in the West Fraser sawmill in Quesnel..

however, the failure point of the steel was increased to reduce the overload condition. The energy absorbing pad had the greatest benefit. The stress in the foot due to impact was lowered to levels below the yield point of the steel used in the existing design, and the stress in the gusset was lowered. The energy absorbing pad absorbs the energy of the load at impact and this reduces the load transferred to the structure of the guard.

We will continue to examine the properties of the energy absorbing pad to determine the optimal combination of thickness and stiffness. This work needs to be conducted in order to determine if there is a cost effective solution that meets the space constraints between the guard and the load, and that satisfies the constraint of minimizing truck tare weight in order to maximize the load weight.

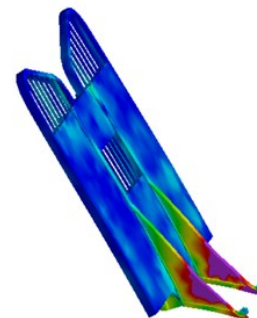


Figure 1:
Stress field in cab guard after impact, regions of red and purple show areas of concern.



HAZARD ALERT

Injury: Fatal

Industry: Forestry, Transportation

Core Activity: Integrated forest management

Location: Northern B.C.

Date of Incident: 2020-Nov

A worker was operating a tugboat in a remote marine forestry operation. The tug was reported to local authorities as being adrift and unoccupied. A water and air search was immediately initiated by the Coast Guard and police. The worker is missing and presumed drowned.

Injury: Injuries to leg

Industry: Manufacturing - Wood & Paper Products

Core Activity: Planing mill

Location: Lower Mainland

Date of Incident: 2020-Nov

A new worker was trying to remove a piece of lumber that had fallen off a lateral infeed machine when the worker's pant leg was caught in a rotating sprocket.

Injury: Fractured vertebrae

Industry: Forestry

Core Activity: Integrated forest management

Location: Vancouver Island/Coastal B.C.

Date of Incident: 2020-Oct

A hand faller, working on a road reactivation project, had placed falling cuts in a tree (12 inches in diameter). As the tree started to fall, the faller cleared down their escape trail and turned around to watch for hazards. A thinner tree (5 inches in diameter), about 15 metres away, uprooted and fell uphill, striking the faller. First aid was administered on site before the worker was flown to hospital.

Injury: Undetermined injuries

Industry: Manufacturing - Wood & Paper Products

Core Activity: Veneer or plywood manufacture

Location: Interior B.C.

Date of Incident: 2020-Nov

A worker was injured when the forklift they were operating failed to navigate a right-hand turn and ran into a structural support of the building.

Injury: Bruising and soreness of arm

Industry: Forestry

Core Activity: Logging road construction or maintenance

Location: Vancouver Island/Coastal B.C.

Date of Incident: 2020-Nov

During maintenance work along a resource road, a vehicle being used for transport of explosives drove off the road. The driver was treated by the first aid attendant, then transported to a medical facility.

Two New Resources Address the Mental Health Effects of COVID-19 in the Workplace

The COVID-19 pandemic affects most people at both home and work, which can take a toll on mental health. Learning how to manage our stress and anxiety during this time helps us all take better care of ourselves, support the people we work with, and be more productive in our jobs.

As an employer, supporting the health and safety of your workers, including their mental health, is especially important during this stressful time. You may also be in the best position to identify mental health issues in your workers and to respond to them in appropriate, meaningful ways.

[Managing the mental health effects of COVID-19 in the workplace: A guide for employers](#) explains how the pandemic can have an impact on mental health, and suggests ways you can support the mental health of your workers. [Addressing the mental health effects of COVID-19 in the workplace: A guide for workers](#) offers advice to workers about how they can manage stress and anxiety so they can better take care of themselves.

WorkSafeBC Reminds us About Ladder Safety

Falls from ladders are a common source of injury in B.C., particularly at this time of year when people are putting up and taking down lights and decorations and cleaning gutters — often in cold and wet weather conditions.

In 2019, there were 1,077 accepted claims as a result of falls from ladders across all industries in B.C., including 325 serious injuries and four deaths.

“To stay safe, you need to choose the right ladder for the job, ensure it’s in good working condition, and take the time to set it up and use safely,” says Barry Nakahara, senior manager, Prevention Field Services at WorkSafeBC.

WorkSafeBC urges workers and the public to use ladders safely this holiday season by following these safety tips:

- Select the appropriate ladder for the job. It must be long enough to extend one metre above the upper landing.
- Inspect the ladder to ensure it is in good working condition before each use.
- Always set up the ladder on a firm, level surface.
- Maintain three points of contact while climbing a ladder: two feet and one hand, or two hands and one foot.
- Wear slip-proof footwear.
- Don’t carry heavy or bulky objects while climbing up or down a ladder.
- Wind, rain, and snow may pose additional hazards. Avoid ladder work in inclement weather.
- Check for power lines and ensure a minimum distance of three metres can be maintained at all times before starting work.

[More Information](#)

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The SAFER Council Directors Wish Everyone A Merry Christmas & A Happy & Safe New Year

