

CONTRACTOR TOOLBOXES

Contractor toolboxes are sets of tools and resources that employers and drivers can use to address the risk of injury from load securement activities based on their operational needs and preferences. These toolboxes include descriptions, musculoskeletal injury (MSI) risk reduction measures, time requirements, costs, safe work procedures, risk exposure, risk controls and other implementation resources.

As per WorkSafeBC OHS regulation section 4.46 to 4.53, employers must identify the factors that may expose workers to the risk of MSI in their workplace. Employers can refer to [BCFSC's load securement risk assessment tool for risk identification \(reg 4.47\) and risk assessment \(reg 4.48\) related to load securement](#) (BCFSC 2021).

It should be noted that the tools or methods identified in the contractor toolboxes reduce but do not eliminate the risk of MSI.

To use the toolboxes effectively, the employers and drivers must:

- Make sure that they become familiar with the tools and resources provided, and understand how to use these tools in their operations;
- Ensure users are trained on safety procedures;
- Be aware of risk exposures and controls;
- Conduct regular safety inspections and stay current with new safety regulations and best practices.

For all toolboxes, there are general risk reduction considerations for drivers that need to be followed:

- Train or refresher training to increase effectiveness and the confidence of workers.
- Remember the importance of stretching throughout the day / during breaks to reset muscles and avoid further strain, targeting especially the shoulders and back before and after load securement activities.
- Consult supervisor or health & safety reps for considering the most appropriate toolbox for drivers with previous injuries, low fitness level or restricted mobility.
- Assess the condition of the load and the work area available on both sides of the truck before using any tool or method.
- Where possible, practice the throwing motion using both dominant and non-dominant hands so that they may alternate and spread the load between both arms throughout the day.
- Avoid throwing multiple wrappers in one throw

Toolbox D –RotatorSaver

Descriptions

The RotatorSaver is a tool designed to get the wrapper over the load with minimal effort based on a mechanical advantage principle. The tool weighs around 8.2 kg (18 lbs) and consists of two arms: a primary arm, which measures 6 ft, and a secondary arm, which measures 2 ft. The RotatorSaver mounts on a bracket that is installed on the stake of each bundle. The wrapper is coiled and placed at the end of the arm. The driver pulls the lever to propel the arm in an upward arching motion thereby getting the wrappers over the load effortlessly. The tool is moved from bundle to bundle with the process being repeated.

MRS and MRS Risk Level

When used with recommended safe work procedures, this tool resulted in low MRS risk level with MRS between 13 to 18 (Table 14).

Table 14. MRS and MRS risk level with the use of the RotatorSaver

Movement Risk Score	Risk Level
13-18	Low

Safe Work Procedure

1. Install the RotatorSaver onto the bracket that is mounted on the stake by sliding the hook into the slot (Figure 27) while holding the unit with both hands.



Figure 27. Installing the RotatorSaver onto the bracket mounted on the stake.

2. Coil the wrapper three times around the studs in triangular position as shown in Figure 28. The chain will be coiled on the two bottom studs.

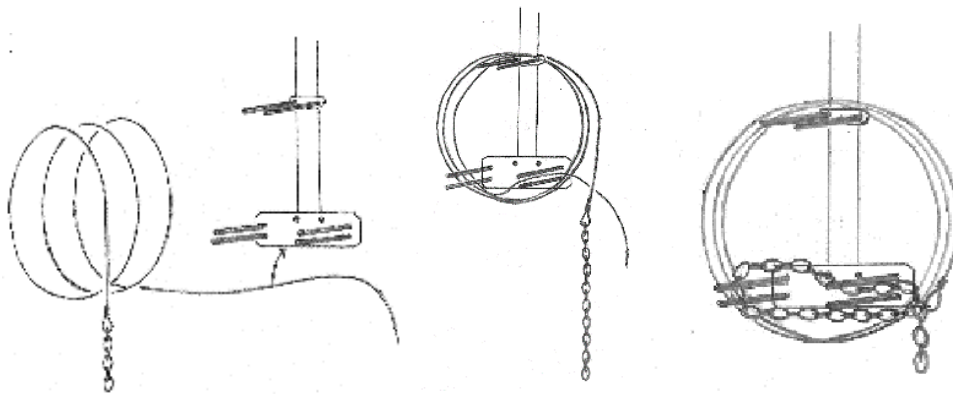


Figure 28. Coiling of wrapper onto RotatorSaver (Source: RotatorSaver, reproduced with permission).

3. Lay the remaining wrapper on right side of the tool on the ground. Take the other end of the chain and rest it on the chassis of truck as shown in Figure 29.



Figure 29. Placement of the other end of wrapper before the slingshot motion.

4. Repeat steps 2 and 3 for installing a second wrapper on the same studs i.e with this tool, two wrappers can be positioned on the arm and tossed over the load at the same time.
5. Face towards the load and grab the red bottom handle of the sling rope and slowly bring towards the mid body position, then grab the second handle (black). Try to keep hands close to the body. Hold the second handle with both hands and bring it closer to lower part of the face. At this position, the longer arm of RotatorSaver will be perpendicular to the stake (Figure 30). Do not raise hands above eye level and avoid facing sideways.



Figure 30. Use of sling rope for preparing for slingshot motion.

6. To create the slingshot action, bring the arm toward the mid body while dropping into a lunge position and maintaining a neutral spine (Figure 31). Use the leg muscles to generate the force. With minimal effort, the wrapper will be propelled over the load.

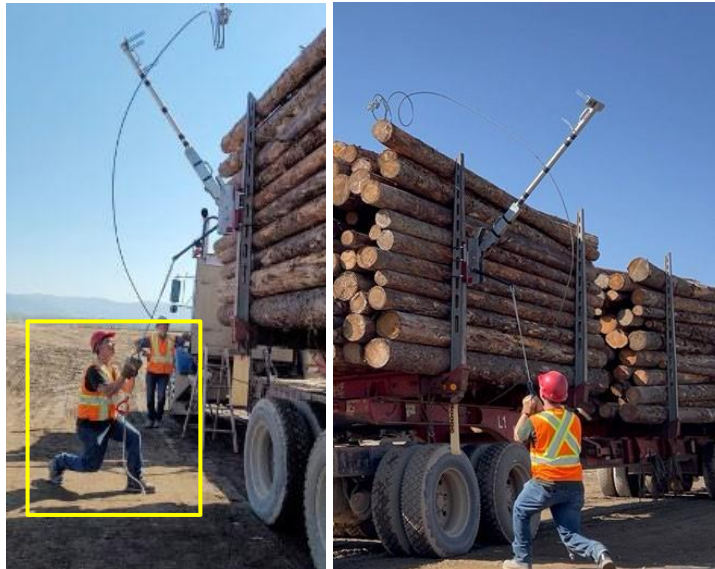


Figure 31. Slingshot motion for getting wrapper over the load.

7. Dismount the RotatorSaver from the bracket on the stake by grabbing and lifting the longer arm slightly upward to unhook the tool from the bracket.
8. Move to another bundle and perform steps 2 to 7 for the remaining bundles.

Time

Conventional wrapping time for three bundle loads is around 3.5 minutes, whereas the wrapping time using the RotatorSaver tool will be around 9.5 minutes as reported by one of the participated fleets.

Cost

The cost of the RotatorSaver including three brackets is around \$1,700.

Risk Exposure

Inappropriate use of the tool can expose drivers to risk of musculoskeletal related injury (MSI) because of repetitive motions, improper methods, and non-ideal posture. Previous injuries could also increase risk. Other risks include residual energy of the RotatorSaver, falling logs, wrappers or debris and slips, trips and falls on uneven and poor ground conditions.

Suppliers

RotatorSaver

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ADDITIONAL RESOURCES

Other resources on wrapper throwing method, training and injury management that employers and drivers can refer to:

- BC Forest Safety Council: Throwing Wrappers – Method for Reducing Injuries
<https://www.youtube.com/watch?v=hDD5gzrjFJM>
- BC Forest Safety Council: Shoulder Injury Management for Log Truck Drivers
<https://www.youtube.com/watch?v=emmPSSL3aDE>
- BCFSC and Total Physiotherapy (2018) Throwing procedure
https://www2.bcforestsafes.org/files/BCFSC_Logging_Poster_Method_Throwing_Wrappers_0.pdf

There are additional resources from BCFSC and FPIInnovations that can be used in risk assessments for loader assist methods:

- BC Forest Council: Loader Assist Procedure
 - https://www.bcforestsafes.org/wp-content/uploads/2021/10/Risk-Assessment-Tool-MSI-Load-Securement_14-Oct-21_FINAL.pdf
 - <https://www.youtube.com/watch?app=desktop&v=QhORC4T7ABc>
- FPIInnovations: Reducing Repetitive Strain Injuries Resulting from Installing Log Load Wrappers
<https://www.youtube.com/watch?v=WX2nWni4FOI>