Ladder Safety – Follow the "Basics" to Reduce Incidents

We've likely all been exposed to the "Basics" of ladder safety. Over the years bad habits may develop when we use ladders incorrectly without incident. Sadly, incidents do happen regularly due to improper ladder use. In 2014 there were 157 Lost Time Injuries reported to the WSIB that were a direct result from ladder use. Training/re-training of workers on ladder use, preferred methods, maintenance, storage and legislation can have the positive effect of changing our bad habits into good ones and reducing ladder use incidents.

BAD HABITS = POTENTIAL FOR INCIDENTS:

- Using the wrong type of ladder for the job.
- Not properly securing the ladder (tied off, held).
- Overreaching resulting in loss of balance.
- Setting up a ladder on an uneven surface resulting in the ladder tipping over sideways.
- Using ladders on slippery surfaces resulting in the ladder feet slipping outward.
- Using damaged ladders (broken rungs/deformed or cracked side rails/loose connecting parts) resulting in the ladder collapsing.
- Using ladders near doorways that could open and strike the ladder.
- Ladders collapsing on themselves due to damaged components, too much weight or step ladder spreader bars not being fully engaged.
- Leaning step ladders against walls (unfolded).
- Using ladders where they might contact live overhead wires.
- Leaving ladders out in the workplace as potential trip hazards.
- Using ladders in poor weather conditions.

GOOD HABITS = PROPER LADDER USE:

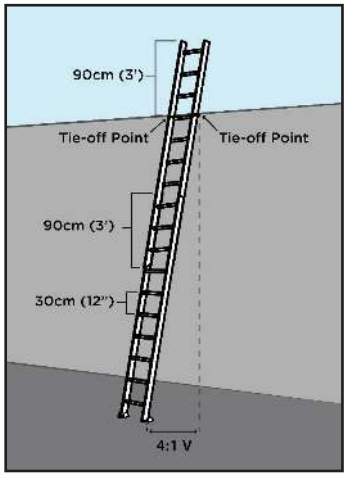
- Use the right ladder for the job. Whether it be a step or extension ladder, ensure it is the proper length. The maximum length of a ladder measured along its side rail must not exceed:
  - 6 m (20 ft) for a stepladder
  - 9 m (30 ft) for a single/straight ladder
  - 15 m (50 ft) for an extension ladder with 2 sections
  - 20 m (65 ft) for an extension ladder with more than 2 sections

GOOD HABITS = PROPER LADDER USE:

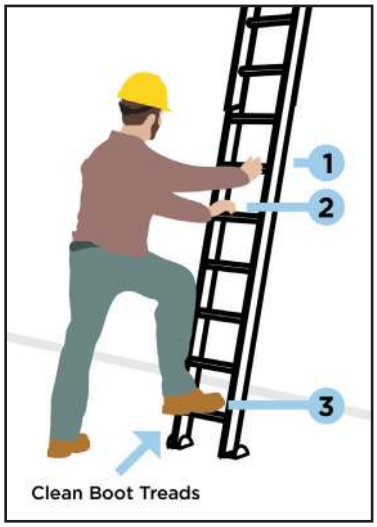
- Know & don't exceed the weight capacity provided by the manufacturer of the ladder. The Canadian Standards Association standard for portable ladders (CAN3-Z11-M81) classifies minimum characteristics of strength and stability required for safe use. It also provides a guideline for the use and care of ladders.

SECTOR	CSA LOAD RATING	GRADE TYPE	WEIGHT LIMIT
• Construction • Industrial • Utilities	Extra Heavy Duty (ANSI) Heavy Duty	1A 1	300 lbs 250 lbs
• Light Maintenance • Office • Tradesman	Medium Duty	2	225 lbs
• Household	Light Duty	3	200 lbs

- Always do a visual inspection of the ladder before climbing and train workers what to look for.
- Ensure the soles of footwear are clean and made of a non-slip material.
- Set up ladders on solid, dry and even surfaces.
- Use the ratio of 1:4 when leaning a ladder against a wall: 1 out from the wall for every 4 up.
- Secure ladders at both the top and bottom. Use a helper to support the ladder from the bottom.
- Always face the ladder while climbing.
- One person at a time on a ladder.
- Don't overreach – keep your belt buckle between the side rails of the ladder.



3 Point Contact



- Use the 3 Point Contact (two hands & one foot or one hand & two feet in contact with the ladder at all times).
- Carry tools in a tool belt when climbing or raise them up with a rope.
- Don't stand on the top two steps of a step ladder or on the bucket shelf.
- Get help when moving or positioning long or heavy ladders.
- Allow for the top of the ladder to extend at least one meter above the step off point (roof top landing).
- Maintain a clear access at both top and bottom landing areas.

PREFERRED METHODS

There are safer methods to use when working with a ladder. Consider using one of the following preferred methods when planning the work:

- Lowering work
- Scaffolding
- Using elevated platforms

Hierarchy of Controls

The chart below provides you with control options that can help eliminate or reduce risk related to working at heights using a ladder.

 ELIMINATION	• Lowering the task so that it can be done at a lower level or at the ground
 SUBSTITUTION	• Using work platforms, scaffolds or person lifts rather than ladders for carrying out work at heights when possible • Using an alternative means for access or egress for emergency procedures
 ENGINEERING	• Ensuring weight restrictions are adhered to • Ensuring ladder has non-slip feet, or is securely fastened • Using the right type of ladder for the job
 ADMINISTRATIVE	• Properly positioning ladder at safe distances and angles • Providing training on how to use ladder • Setting up on stable ground
 PERSONAL PROTECTIVE EQUIPMENT	• Always using three points of contact and facing the ladder when going up and down

PROPER LADDER MAINTENANCE & STORAGE:

- Keep ladders clean from mud, chemicals and debris that can cause them to degrade or that might hide imperfections.
- Store ladders out of the weather on dedicated horizontal wall racks. Remembering to return them to this location after each use.
- When transporting a ladder by vehicle ensure it is secured to the vehicle so movement or vibration cannot damage it.
- Tag defective ladders for replacement or potential repair and take them out of service so others will not use.
- Put a ladder maintenance program in place for life-time monitoring of each ladder's condition.

WORKER TRAINING:

- Take the time to train workers so they know which type of ladder to use for each task they may be required to do.
- Ensure workers know how to properly set up and use each type of ladder.
- Ensure workers conduct ladder inspections prior to each use.

Ladder Inspection Checklist

Before using a ladder must be inspected thoroughly for any damage, defects, suitability and quality. This checklist will help you determine if the ladder is safe to use or not. If you answer "yes" to any of the following, the ladder should be tagged and taken out of service immediately.

Date: _____ Type/Grade of Ladder _____
Inspected By: _____ Length: _____
Location: _____ Ladder ID: _____
Material: ☐ Wood ☐ Fiberglass ☐ Aluminum ☐ Other _____

Inspection Item	Yes	No
Metal Parts broken, loose, dented, rusty, missing		
Side Rails broken, loose, dented, rusty, signs of deterioration		
Rungs broken, loose, dented, rusty, signs of deterioration		
Braces, Uprights or Steps broken, cracked, splintered, chipped, defective, missing or signs of deterioration		
Anti-Slip Feet broken, cracked, defective, poor condition, missing, or signs of deterioration		
Extension ladder lock, pulley or other fittings worn, out of place, damaged, unworkable, missing or signs of deterioration		
Steps: greasy, slippery, cracks, splitting		
Spreader Arms and Stops broken, bent, loose, damaged, defective, rusty, unworkable or missing		
Rope damaged, worn, broken, frayed, knotted or missing		
Pail Tray damaged, worn, broken, bent, rusty, tight, unworkable or missing		
Ladder makeshift repairs, signs of deterioration, bent, warped, twisted or bowed		
Storage Improperly stored		
Identification Marks (CSA) not visible		

☐ Continue Use ☐ Repair ☐ Destroy

KNOW THE LEGISLATION, STANDARDS, GUIDELINES AND BEST PRACTICES THAT APPLY TO YOUR WORKPLACE:

The Ontario Ministry of Labour website is a good source of information for finding the Legislation, Standards, Guidelines and Best Practices that apply to your workplace:

- Ministry of Labour's MSD Prevention/Ergonomic Guidance regarding:
  - Step Stools in Industrial Workplaces http://www.labour.gov.on.ca/english/hs/pubs/ladder_step.php
  - Sliding, Fixed, Portable (Extension, Single) Ladders in Industrial Workplaces http://www.labour.gov.on.ca/english/hs/pubs/ladder_sliding.php
  - Portable Ladders in Industrial Workplaces (Mobile Ladder Stand / Ladder Platform) http://www.labour.gov.on.ca/english/hs/pubs/ladder_mobile.php
  - Portable Ladders in Industrial Workplaces (Step / Platform or Trestle Ladders) http://www.labour.gov.on.ca/english/hs/pubs/ladder_portable.php
- Ladder Safety in Construction – Requirements to conduct risk assessments prior to determining whether or not to use a ladder rather than a scaffold. http://www.labour.gov.on.ca/english/hs/sawo/pubs/fs_laddersafety.php
- Where frequent access is required to equipment elevated above or located below floor level, permanent platforms shall be provided with access by a fixed stair or access ladder. Regulation for Industrial Establishments, O. Reg. 851/90 Section 19. http://www.ontario.ca/laws/regulation/900851
- Fixed Access Ladder Engineering Data Sheet 2–04. http://www.labour.gov.on.ca/english/hs/pubs/eds2-4_ladders.php

NEED HELP?

Your PSHSA consultant can help you change your ladder safety Bad habits into Good habits.
We offer resources and hands-on training programs like 'Working at Heights' to help get you started.

Find your PSHSA consultant at **www.pshsa.ca**