

FOREWORD

The Workers' Safety and Compensation Commission (WSCC) produced this industry code of practice in accordance with subsections 18(3) and 18(4) of the Northwest Territories and Nunavut Safety Acts.

The WSCC acknowledges and thanks the Canadian Centre for Occupational Health and Safety (CCOHS) and WorkSafeBC for content used in the Personal Protective Equipment Fall Protection code of practice. Pages 16 – 28 of the Personal Protective Equipment Fall Protection Code of Practice are adopted from WorkSafeBC's An Introduction to Personal Fall Protection Equipment. The Code of Practice applies to all workplaces covered by the Northwest Territories and Nunavut Safety Acts and Occupational Health and Safety Regulations. The Personal Protective Equipment Fall Protection code of practice relates to section 4 and 5 of the Safety Act and sections 103 to 109, 118 to 122, 131 to 132 and 198 of the Occupational Health and Safety Regulations.

This code is in effect as published in the in the Northwest Territories Gazette and Nunavut Gazette, in accordance with the Safety Acts and Occupational Health and Safety (OHS) Regulations.

IN EFFECT DATES:

Northwest Territories: November, 30, 2018

Nunavut: November 30, 2018



Chief Safety Officer, WSCC

Disclaimer

This publication refers to obligations under workers' compensation, occupational, and mine health and safety legislation as administered by the Workers' Safety and Compensation Commission.

To ensure compliance with legal obligations, always refer to the most recent legislation. This publication may refer to legislation that has been amended or repealed.

Check for information on the latest legislation at wscn.nt.ca or wscn.nu.ca, or contact WSCC at 1-800-661-0792.

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1 WHAT IS A CODE OF PRACTICE

WSCC codes of practice provide practical guidance to achieve the safety standard requirements of the Northwest Territories and Nunavut *Safety Acts* and related regulations.

As per subsection 18(3) of the Northwest Territories and Nunavut *Safety Acts*, “For the purpose of providing practical guidance with respect to the requirements of any provision of this Act or the regulations, the Chief Safety Officer may approve and issue such codes of practice as he or she considers are suitable for that purpose.”

WSCC codes of practice apply to all workplaces in the Northwest Territories and Nunavut. Codes of practice are approved by the Northwest Territories’ and Nunavut’s Chief Safety Officer for use by all occupational health and safety (OHS) stakeholders. Codes of practice come into effect in each territory on the day they are published in the *Northwest Territories Gazette* and *Nunavut Gazette*, respectively.

Codes of practice do not have the same legal force as the *Safety Acts* and related regulations. A person or employer cannot be prosecuted for failing to comply with a code of practice. However, in legal proceedings under the *Safety Acts* and related regulations, failure to observe a code of practice may be a consideration when determining whether a worker or employer complies with the *Safety Acts* and related regulations.

Employers and workers should follow WSCC codes of practice unless there is an alternative course of action that achieves the same or better occupational health and safety outcomes.

A Code of Practice

- Provides practical guidelines.
- Needs to be adapted to the work site.
- May be used as evidence.
- Should be followed unless there’s a better way.

2 INTRODUCTION

The Personal Protective Equipment Fall Protection code of practice provides basic guidelines to ensure worker safety in the workplace through the use of personal protective equipment (PPE) in the form of fall protection. The *Occupational Health and Safety Regulations* require the use of fall protection PPE when working at an elevation of 3 m (10 ft.) or more. The code of practice provides clarity about regulatory requirements, applicable CSA standards and overall information about fall protection.

Definition

Personal Protective Equipment means any clothing, device or other article that is intended to be worn or used by a worker to prevent injury or to facilitate rescue.

Falls are the number one cause of accidental death in construction. A worker does not have to fall far to be injured or killed. If a worker is at risk of falling any distance, fall protection measures need to be in place.

PPE is equipment worn by workers to minimize exposure to specific occupational hazards. PPE cannot eliminate a hazard, but can reduce the risk of injury. Fall protection PPE including but not limited to travel-restraint systems, fall-restricting systems, fall-arrest systems or safety nets, decrease the risk of injury to workers.



For more information see the [PPE Basics Code of Practice](#), and the [Hazard Assessment Code of Practice](#) at wsc.nt.ca or wsc.nu.ca

3 PPE AND HAZARD CONTROL

Decisions about PPE form part of the hazard assessment process, the standard work site approach to dealing with potential hazards. There are five basic ways to control hazards. These controls form a hierarchy.

Elimination is always the first control to consider. After that, proceed down the hierarchy until the control of last resort, PPE.

The five basic ways to control hazards and examples:

1. Elimination (remove from the work site)
2. Substitution (use a less harmful chemical)
3. Engineering (isolate equipment/set guards)
4. Administrative Controls (provide training/maintenance)
5. Personal Protective Equipment (provide gloves/goggles)

The use of PPE does not prevent accidents or eliminate hazards. Make every effort to control all hazards at the source. Training is also important. PPE cannot achieve its full-protection potential without worker knowledge and cooperation.

Several controls may have to be put in place. Certain hazards may require multiple PPE solutions. For example, working with chlorine requires respiratory and eye protection because chlorine irritates both the respiratory system and the mucous membranes of the eyes.

Wearing PPE should not add to the hazard or create a new hazard. For instance, proper glove selection can prevent skin damage, but gloves worn while working with moving equipment can create an entanglement hazard. Using different types of protection at the same time, i.e. hard hat, ear muffs and goggles, should not increase the risk to the worker.

PPE design criteria cannot cover all eventualities. Do not use PPE when its use creates hazards greater than those for which it is designed. Take uncertainties into account when evaluating potential hazards.

4 ACTS, REGULATIONS, AND STANDARDS

Safety Acts

Northwest Territories and Nunavut

HEALTH AND SAFETY

4. (1) Every employer shall
 - (a) maintain his or her establishment in such a manner that the health and safety of persons in the establishment are not likely to be endangered;
 - (b) take all reasonable precautions and adopt and carry out all reasonable techniques and procedures to ensure the health and safety of every person in his or her establishment; and
 - (c) provide the first aid service requirements set out in the regulations pertaining to his or her class of establishment.
- (2) If two or more employers have charge of an establishment, the principal contractor or, if there is no principal contractor, the owner of the establishment, shall coordinate the activities of the employers in the establishment to ensure the health and safety of persons in the establishment.
5. Every worker employed on or in connection with an establishment shall, in the course of his or her employment,
 - (a) take all reasonable precautions to ensure his or her own safety and the safety of other persons in the establishment; and
 - (b) as the circumstances require, use devices and articles of clothing or equipment that are intended for his or her protection and provided to the worker by his or her employer, or required pursuant to the regulations to be used or worn by the worker.

**Occupational Health and Safety Regulations
Northwest Territories and Nunavut**

PART 7 PERSONAL PROTECTIVE EQUIPMENT

Lifelines

103. (1) Unless otherwise specifically provided, an employer shall ensure that a lifeline is
- (a) suitable for the conditions in which the lifeline is to be used, having regard to the physical factors of the lifeline including strength, abrasion resistance, extensibility and chemical stability;
 - (b) made of wire rope or synthetic material;
 - (c) free of imperfections, knots and splices, other than end terminations;
 - (d) protected by padding where the lifeline passes over sharp edges;
 - (e) protected from heat, flame or abrasive or corrosive materials during use;
 - (f) fastened to a secure anchor point that
 - i. has a breaking strength of not less than 22.2 kN, and
 - ii. is not used to suspend any platform or other load; and
 - (g) maintained according to the manufacturer's specifications.
- (2) An employer shall ensure that a vertical lifeline required by these regulations has a minimum diameter of
- (a) 12 mm if the lifeline is made of nylon;
 - (b) 15 mm if the lifeline is made of polypropylene; or
 - (c) 8 mm if the lifeline is made of wire rope.
- (3) An employer shall ensure that if a vertical lifeline is used,
- (a) the lower end extends to the ground or to a safe landing; and
 - (b) the lifeline is protected at the lower end to ensure that the line cannot be fouled by any equipment
- (4) An employer shall ensure that a horizontal lifeline is
- (a) either
 - i. designed and certified by a professional engineer, or
 - ii. manufactured to an approved standard; and
 - (b) installed and used in accordance with the design or standard referred to in paragraph (a) or the manufacturer's specifications.

Personal Fall Arrest System

104. (1) An employer shall ensure that a personal fall arrest system and connecting linkage required by these regulations are each approved and maintained.
- (2) An employer shall ensure that a personal fall arrest system required by these regulations
- (a) prevents a worker from falling more than 1.2 m without a shock absorber;
 - (b) if a shock absorber is used, prevents a worker from falling more than 2 m or the limit specified by the manufacturer's specifications, whichever is less;
 - (c) applies a peak fall arrest force not exceeding 8 kN to a worker; and
 - (d) is fastened to a lifeline or to a secure anchor point that has a breaking strength of not less than 22.2 kN.

Full Body Harness

105. If a full body harness is required by these regulations, an employer shall ensure that
- (a) the full body harness and connecting linkage are each approved and
 - (b) maintained;
 - (c) the full body harness is properly fitted to the worker;
 - (d) the worker is trained in the safe use of the full body harness;
 - (e) all metal parts of the full body harness and connecting linkage are of drop-forged steel 22 kN proof tested;
 - (f) a protective thimble is used to protect ropes or straps from chafing whenever
 - (g) a rope or strap is connected to an eye or a D-ring used in the full body harness
 - (h) or connecting linkage; and
 - (i) the connecting linkage is attached to a personal fall arrest system, lifeline or secure anchor point to prevent the worker from falling more than 1.2 m.

Snap Hooks on Personal Fall Arrest System

106. If a snap hook is used as an integral component of a personal fall arrest system, connecting linkage, full body harness or lifeline, an employer shall ensure that the snap hook is self-locking and is approved and maintained.

Lanyards

107. An employer shall ensure that a lanyard is
- (a) as short as work conditions permit;
 - (b) constructed of
 - i. nylon, polyester or polypropylene rope or webbing, or
 - ii. wire rope that is equipped with an approved shock absorbing device;
 - (c) equipped with suitable snap hooks; and
 - (d) approved and maintained.

Workers' Responsibilities

108. (1) Before using a lifeline or lanyard, a worker shall ensure that the lifeline or lanyard is
- (a) free of imperfections, knots and splices, other than end terminations;
 - (b) protected by padding where the lifeline or lanyard passes over sharp edges; and
 - (c) protected from heat, flame or abrasive or corrosive materials during use.
- (2) Before using a vertical lifeline, a worker shall ensure that
- (a) the lower end extends to the ground or to a safe landing; and
 - (b) the lifeline is protected at the lower end to ensure that the line cannot be fouled by any equipment.
- (3) Before using a full body harness, a worker shall ensure that the full body harness is
- (a) properly adjusted to fit the worker securely; and
 - (b) attached by means of a connecting linkage to a personal fall arrest system, lifeline or fixed anchor.

(4) A worker who uses a full body harness and connecting linkage shall ensure that the connecting linkage is attached to a personal fall arrest system, lifeline or fixed anchor.

Inspections

109. (1) If these regulations require the use of a connecting linkage, personal fall arrest system, full body harness or lifeline, an employer shall ensure that a competent individual
- (a) inspects it in accordance with the manufacturer's recommendations;
 - (b) inspects it after it has been used to arrest a fall; and
 - (c) determines whether it is safe for continued use.
- (2) An employer shall ensure that a worker inspects a connecting linkage, personal fall arrest system, full body harness or lifeline before each use and that if it has a defect or is in a condition that could endanger a worker,
- (a) steps are taken, without delay, to protect the health and safety of any worker who could be endangered until the defect is repaired or the condition is corrected; and
 - (b) as soon as is reasonably possible, the defect is repaired or the condition is corrected.

Interpretation

118. In this Part,
"anchor point" or "anchor plate" means a secure connecting point capable of safely withstanding the impact forces applied by a fall protection system;

"fall protection system" means

- (a) a control zone that meets the requirements of and is used in accordance with section 121,
- (b) a personal fall arrest system,
- (c) a safety net, or
- (d) a travel restraint system;

"similar barrier" means a barrier that the employer can demonstrate provides a level of protection that is not less than equivalent to a guardrail;

"travel restraint system" means a system that prevents a worker from travelling to the edge of a structure or to a position from which the worker could fall.

Protection Against Falling

119. (1) An employer shall ensure that workers use a fall protection system at a work site if
- (a) a worker could fall 3 m or more; or
 - (b) there is a risk of injury if a worker falls less than 3 m.
- (2) An employer shall ensure that workers at a permanent work site are protected from falling by a guardrail or similar barrier if a worker could fall a vertical distance of between 1.2 m and 3 m.
- (3) Notwithstanding subsection (2), if the use of a guardrail or similar barrier is not reasonably possible, an employer shall ensure that the worker uses a travel restraint system.

(4) Notwithstanding subsection (3), if the use of a travel restraint system by a worker is not reasonably possible, an employer shall ensure that the worker is protected from falling by the use of a safety net, control zone or other equally effective safeguards.

(5) Subsection (1) does not apply to competent workers who are engaged in

- (a) installing or attaching a fall protection system to the anchor point;
- (b) removing or disassembling the associated parts of a fall protection system when it is no longer required; or
- (c) activities within the normal course of business on a permanent loading dock that does not exceed 1.2 m in height.

Fall Protection Plan

120. (1) An employer shall develop a written fall protection plan if
- (a) a worker could fall 3 m or more; and
 - (b) workers are not protected by a guardrail or similar barrier.
- (2) The fall protection plan must describe
- (a) the fall hazards at the work site;
 - (b) the fall protection system to be used at the work site;
 - (c) the procedures used to assemble, maintain, inspect, use and disassemble the fall protection system; and
 - (d) the rescue procedures to be used if a worker falls or is left suspended by a personal fall arrest system or safety net, and needs to be rescued.
- (3) If a risk of falling exists at a work site, the employer shall make the fall protection plan readily available to workers before work begins.
- (4) An employer shall ensure that a worker is trained in the fall protection plan and the safe use of the fall protection system before requiring or permitting the worker to work at a work site where a fall protection system is used.

Control Zone

121. (1) If a worker could fall from a level surface at a work site, the employer shall ensure that the worker is protected from falling by the use of a control zone that is not less than 2 m wide when measured from the unguarded edge.
- (2) A worker who crosses but who does not otherwise work in a control zone
- (a) is not required to use a fall protection system, other than the control zone itself, to enter or leave the work site; and
 - (b) shall follow the most direct route to get to or from the unguarded edge.
- (3) If a worker works more than 2 m from an unguarded edge, an employer shall ensure that a control zone is clearly marked with an effective raised warning line or other equally effective method.
- (4) An employer shall ensure that a worker working in a control zone uses
- (a) a travel restraint system; or
 - (b) another equally effective system as a travel restraint system that prevents the worker from getting to the unguarded edge.

Anchor Points and Anchor Plates

122. (1) If a worker uses a personal fall arrest system or a travel restraint system, an employer shall ensure that an anchor point or anchor plate meeting the requirements of this section is used as part of that system.

- (2) An employer shall ensure that a temporary anchor point used in a travel restraint system
- (a) has an ultimate load capacity of not less than 3.5 kN per worker attached in any direction that a load could be applied;
 - (b) is installed and used according to the manufacturer's specifications;
 - (c) is permanently marked as being for travel restraint only; and
 - (d) is removed from use on the earlier of
 - i. the date the work project for which it is intended is completed, and
 - ii. the time specified by the manufacturer.
- (3) An employer shall ensure that a permanent anchor point used in a travel restraint system
- (a) has an ultimate load capacity of not less than 22.5 kN per worker attached in any direction that a load could be applied;
 - (b) is installed and used according to the manufacturer's specifications; and
 - (c) is permanently marked as being for travel restraint only.
- (4) If a personal fall arrest system is installed on or after one year after the date this section comes into force, an employer or supplier shall ensure that anchor points to which the personal fall arrest system is attached have an ultimate load capacity of not less than 8.75 kN per worker attached in any direction that a load could be applied.
- (5) An employer or supplier shall ensure that the following types of equipment that are components of fall protection systems, and their installation, conform to the manufacturer's specifications or are certified by a professional engineer:
- (a) permanent anchor points;
 - (b) anchors with multiple attachment points;
 - (c) permanent horizontal lifeline system;
 - (d) support structures for safety nets.

5 CSA STANDARDS

The Canadian Standards Association (CSA) develops standards to address needs such as enhancing health and safety. To view CSA standards online see <http://ohsviewaccess.csa.ca/>

CSA Group test and certify products to Canadian standards and issue the CSA Mark for qualified products.



5.1 UNDERSTANDING CSA CODING

CAN/CSA	Stands for Canada and the Canadian Standards Association.
Z259.11	Lettering between CAN/CSA and the last two digits represent the internal CSA coding of the relevant standard.
-17	The last two digits indicate the year issued.

Standards are updated due to technological and research developments on the subject. When updates to standards occur, the end of the CSA reference changes. The current standard for self-retracting devices for personal fall-arrest systems is CAN/CSA-Z259.2.2-17. This shows that the standard was amended in 2017. The most recent fall protection standards are listed below.

CSA Standard	CSA Standard Titles for Fall Protection
Z259.1-05 (R2015)	Body Belts and Saddles for Work Positioning and Travel Restraint
Z259.2.2-17	Self-Retracting Devices
Z259.2.3-16	Descent Devices

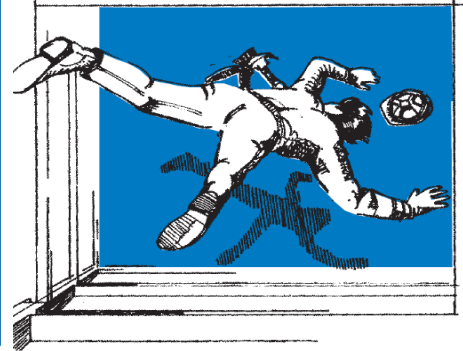
Z259.2.4-15	Fall Arresters and Vertical Rigid Rails
Z259.2.5-17	Fall Arresters and Vertical Lifelines
Z259.10-18	Full Body Harnesses
Z259.11-17	Personal Energy Absorbers and Lanyards
Z259.12-16	Connecting Components for Personal Fall-Arrest Systems (PFAS)
Z259.13-16	Manufactured Horizontal Lifeline Systems
Z259.14-12 (R2016)	Fall Restrict Equipment for Wood Pole Climbing
Z259.15-17	Anchorage Connectors
Z259.16-15	Design of Active Fall-Protection Systems

[Make sure you use the most recent standard](#)

6 HOW LONG DOES IT TAKE TO FALL

Many workers believe that they have time to regain their balance before they fall – this is not always true. The following table indicates how far you can fall in just a few seconds:

Time <i>(seconds)</i>	Distance <i>(metres)</i>	Distance <i>(feet)</i>
0.5	1.2	4
1	5	16
1.5	11	36
2	20	64
2.5	31	100
3	44	144
4	78	256



You may not have time to grab hold of something safe, but you can still prevent a tragedy. Properly maintained and worn, a full body harness attached to a secure anchor could save your life.

7 FALL RESTRAINT OR FALL ARREST?

Fall restraint systems **prevent** you from falling.

Examples include:

- Work-positioning systems using full body harnesses that attach you to an anchor and leave both your hands free to work
- Travel-restriction systems of guardrails or personal fall protection equipment used to prevent you from travelling to an edge from where you may fall

Fall arrest systems protect you **after** you fall by stopping the fall before you hit the surface below.

Examples include:

- Full body harnesses connected by lanyards or lifelines to secure anchors
- Safety nets

In choosing a fall protection system, you should first consider installing guardrails or barriers. They provide a high degree of protection once installed properly. However, installing guardrails or barriers at a work site is not always practical – that is when you may need personal fall protection equipment.

8 WRITTEN FALL PROTECTION PLAN

A written fall protection plan is required prior to using a personal fall protection system for work with a potential fall hazard of 3 m or more.

The written plan should identify:

- Potential fall hazards on the job
- Types of fall protection systems to be used
- Instructions to workers on how to safely use the equipment, and
- Instructions on how to rescue a worker who has fallen and can't initiate self-rescue.

See Appendix A for a *Written Fall Protection Template* or go to

http://www.wsc.ca/sites/default/files/documents/101-PR102E_Fillable.pdf

9 FULL BODY HARNESS

WHEN TO USE A FULL BODY HARNESS

When using personal fall protection equipment, wear a full body harness if you are at risk of falling.

A full body harness consists of straps passed over the shoulders, across the chest, and around the legs. In a fall, a full body harness protects you more than a safety belt, because it distributes the force of impact over a greater area of your body.

USING THE RIGHT FULL BODY HARNESS

A full body harness designed to arrest falls should have

- A back-mounted D-ring located between the shoulder blades
- The letter “A” stenciled on each shoulder strap below the D-ring
- An arrow stenciled above each letter “A” pointing up at the D-ring

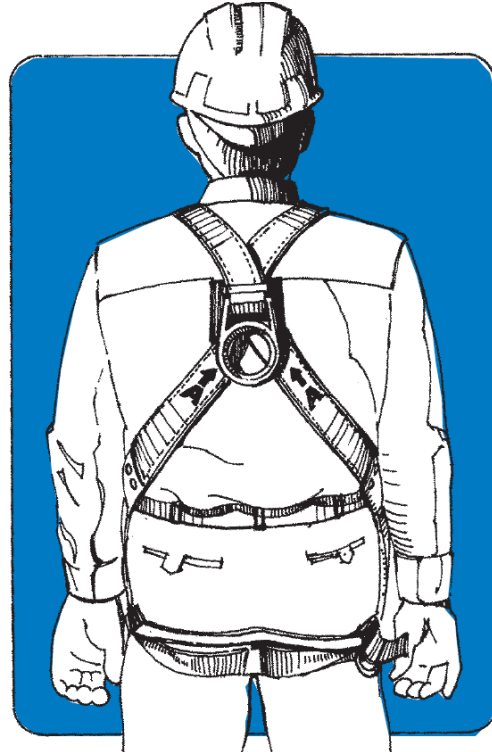
The arrows on the shoulder straps point to the only D-ring on the harness designed to safety arrest a fall.

This is a full body harness worn to arrest falls. Note that the D-ring is located between the shoulder blades.

PUTTING ON A FULL BODY HARNESS

Adjust all hardware and straps so the harness fits snugly, but still lets you move freely. Tuck in all loose straps so they don’t snag or cause you to trip.

Hook on to the harness D-ring (marked “A”) designed to arrest falls.



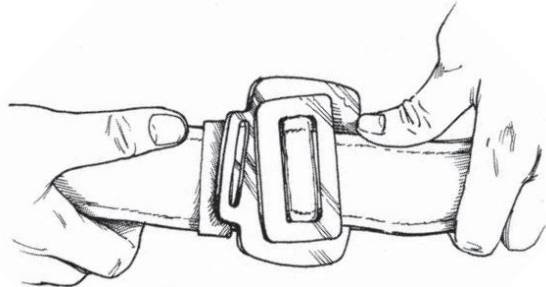
9.1 INSPECTING YOUR FULL BODY HARNESS

Inspect your harness before each use. Check the buckles, the webbing, the D-rings, and the manufacturer's label for additional user information.

If the harness is damaged or worn, do not wear it.

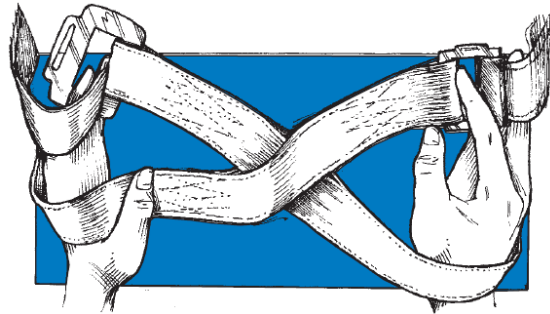
BUCKLES

Many full body harnesses have interlocking buckles called friction buckles. Look for bent, cracked, or nicked buckles. Test the buckles to make sure the coupling is secure.



WEBBING

Look for frayed, cracked, cut, burned, or damaged webbing, and loose or broken stitching.



D-RINGS

Look for bent, cracked, nicked, or gouged rings.

MANUFACTURER'S LABEL

Inspect the manufacturer's label on the harness. The manufacturer's label on a CSA-approved full body harness will contain the following information:

- Manufacturer or vendor identification
- Size of the harness
- Date the harness was manufactured
- Model number

Some harnesses are designed to serve more than one purpose. Check the manufacturer's label for the harness's classification.

Group A – Fall arresting

Group D – Controlled descent

Group E – Confined entry (raising and lowering)

Group L – Ladder climbing

Group P – Work positioning

Note: A full body harness that meets the CSA Standard Z259.10-18 is acceptable to the WSCC.

10 LANYARDS AND ANCHORS

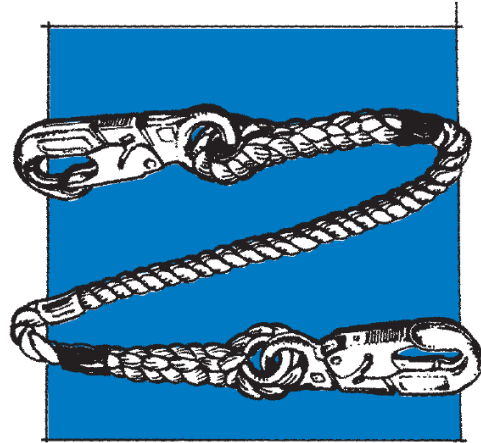
A lanyard is a flexible line of webbing or a synthetic or wire rope used to secure a full body harness to a lifeline or anchor.

USING THE RIGHT LANYARD

A lanyard that meets the requirements of CSA Z259.11-17 is acceptable to the WSCC.

Keep lanyards as short as possible to reduce the distance you could fall. Try to arrange the lanyard to limit a free fall to no more than 1.2 m (4 ft.) **in a fall arrest situation.**

When using a wire rope lanyard for fall arrest, a personal shock absorber must be incorporated as part of your personal fall protection system in order to keep the arrest force at a safe level.



10.1 INSPECTING YOUR LANYARD

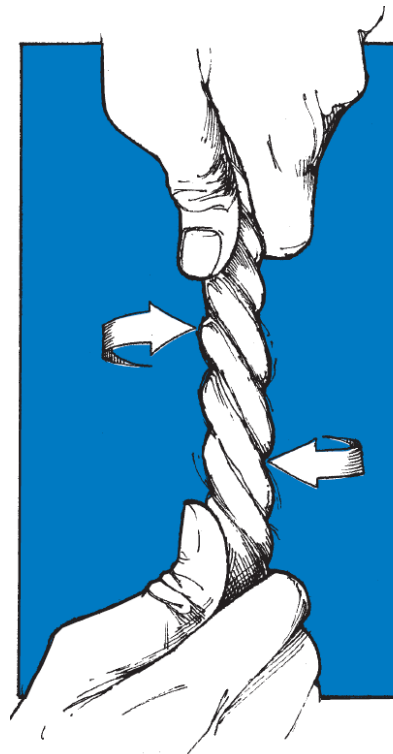
Inspect the lanyard before each use. Check the rope or webbing, the snap hooks, and the manufacturer's label for additional user information.

ROPE OR WEBBING

Inspect along the length of the lanyard and the eye splices. If you have a three-strand rope lanyard, carefully twist the rope open to look for worn, broken, or cut fibres. Do not overtwist, or you could permanently deform the rope.

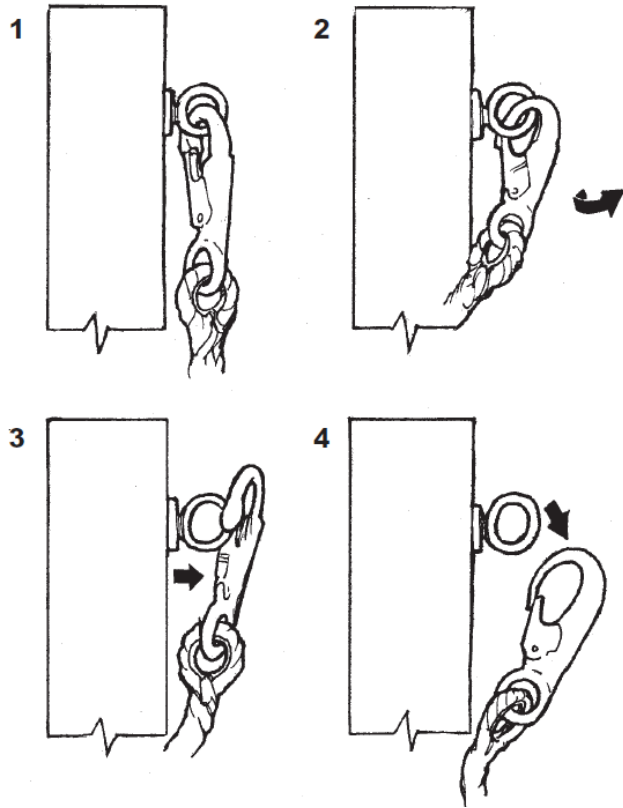
Web lanyards should be discarded if the webbing has cuts or holes, is worn or frayed, or if the load-bearing stitches are damaged.

If you find any signs of deterioration, burns, or broken or damaged strands, or if you have any reason to suspect the lanyard, do not use it.



SNAP HOOKS

CSA Standard Z259.11-17 requires snap hooks to be self-locking to prevent accidental roll-out. Roll-out can occur when small D-rings, or other attachment hardware, cause the snap-hook gate to push open in a twisting action – thus separating the two components.



MANUFACTURER'S LABEL

The manufacturer's label on a CSA-approved lanyard will contain the following information:

- Manufacturer or vendor identification
- Length and diameter (if applicable) of the lanyard
- Material the lanyard is made of
- Date the lanyard was manufactured
- Model number
- "Warning – any unit which has seen fall arrest service should not be used after such service"

PERSONAL SHOCK ABSORBERS

A shock absorber slows and cushions the fall, reducing the force of stopping the fall.

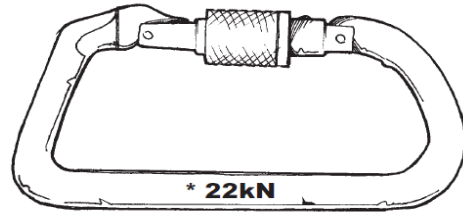
Personal shock absorbers are often made of "tear webbing." In a fall, specific stitch patterns in the webbing absorb the force of impact and progressively tear apart.

Warning: The shock absorber may increase the length of the lanyard by as much as 1.2 m (4 ft.) during a fall. Refer to the label on the shock-absorbing unit to determine the maximum elongation. Allow for this extra fall distance when you include a shock absorber in your personal fall protection system.

Note: A personal shock absorber that meets CSA Standards Z259.11 – 17 is acceptable to the WSCC.

CARABINERS

A carabiner is an oblong-shaped connecting device used to attach different components of a personal fall protection system.



A carabiner meeting the requirements of CSA Z259.12-16 is acceptable to the WSCC. A carabiner should:

- Have gates that are both self-closing and self-locking
- Have a breaking strength of at least 22 kN (5,000 lb.)
- Have the manufacturer's identity and load capacity clearly marked on it

Inspect your carabiner before each use. Make sure it is free of damage, deformities, or excessive wear.

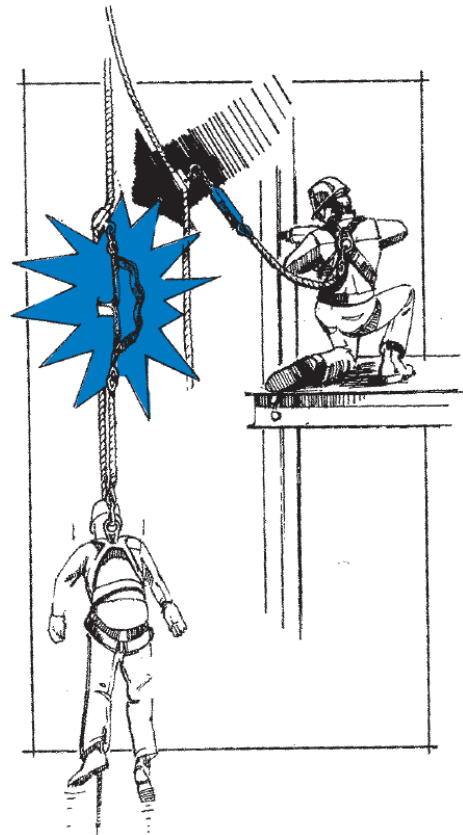
10.2 ANCHORS

An anchor – what you connect your lanyard or lifeline to – is a key element of any personal fall protection system. An anchor may consist of a load-rated strap or sling wrapped around a substantial structural member on a building. An anchor may also be a manufactured component that permanently or temporarily attaches to a structure.

SELECTING AN ANCHOR

The selection of a suitable anchor depends on whether you want to restrain or arrest a fall. If you want to prevent or restrain yourself from falling, your anchor must be capable of supporting at least 3.5 kN (800 lb.) or, alternatively, the equivalent of four times the weight of the worker.

If you want to arrest a fall, your anchor must be capable of supporting at least 22 kN (5,000 lb.). Alternatively, when the potential arrest forces are known, an anchor that is capable of supporting the equivalent of two times the maximum arrest force generated by a falling worker is acceptable.



For example, the manufacturer will specify the maximum arrest force on personal energy-absorbing devices in the fall arrest system.

Note: the anchor values above do not apply to horizontal lifeline systems, as the potential forces imposed on the anchors of a horizontal lifeline can be much greater than those for personal fall restraint and arrest systems. See pages 27 and 28 for information on acceptable horizontal life systems.

11 LIFELINES

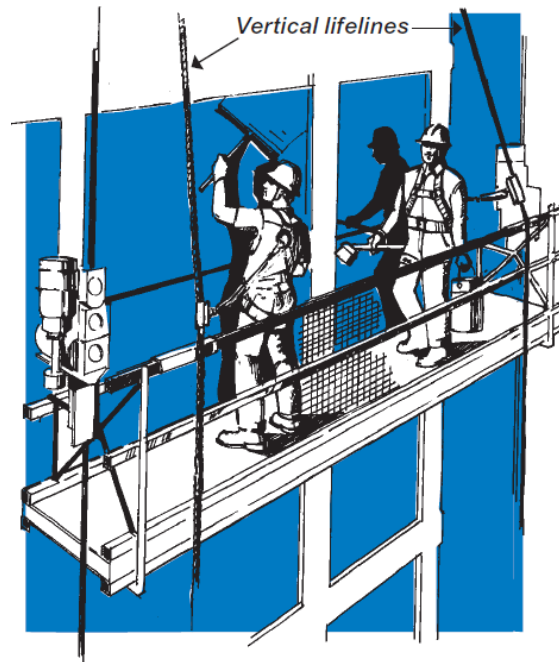
A lifeline is a length of synthetic fibre or steel wire rope attached to an independent point of anchorage. A lifeline is typically used in conjunction with a fall arrest device, such as a rope grab.

11.1 VERTICAL LIFELINES

Using the right vertical lifeline. The rope used as a vertical lifeline in a personal fall arrest system requires a minimum breaking strength of 26.7 kN (6,000 lb.). The reason for a breaking strength greater than that of the anchor is to allow for eye splices and knots tied in the rope at the anchor end. Splices and knots will weaken a rope; so, additional capacity of the lifeline is required.

The following is good industry practice for the safe use of a vertical lifeline:

- No knots or splices in the lifeline except at the termination points
- Attach each lifeline to an independent point of anchorage
- Only one worker connected to a vertical lifeline
- The lifeline should extend to within 1.2 m (4 ft.) of the ground or safe lower landing, and
- If the suspended length of a lifeline exceeds 91 m (300 ft.), lanyard length, and the effects of wind, rope construction, and strength must be taken into account



INSPECTING A VERTICAL LINE

Exposure to sunlight causes most synthetic fibre ropes to deteriorate over time. Before each use, carefully inspect your lifeline to make sure it is in good condition. Look for signs of chafing or abrasion, cuts in the yarns or strands, or any visible deformities that would weaken the rope or interfere with the free movement of the rope grab.

IF YOU HAVE ANY DOUBTS ABOUT THE CONDITION OF THE LIFELINE, DO NOT USE IT.

ROPE GRABS

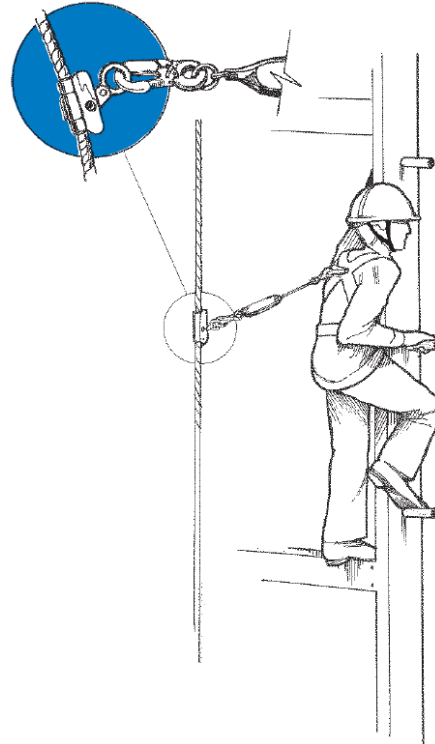
A rope grab is a device that travels along a lifeline and will lock onto it **in the event of a fall**. Rope used with all rope grabs must be the diameter specified by the manufacturer. Ensure the rope grab is installed on the rope in the correct orientation so the top of the device is installed pointing toward the anchor.

The two most common types of mechanical rope grabs are **automatic** and **manual**.

An automatic (or mobile) rope grab moves freely along the lifeline with you. If you fall, it locks automatically and stops you after a short distance. If you are using an automatic rope grab, it is recommended that you limit your lanyard to 0.6 m (2 ft.) in length.

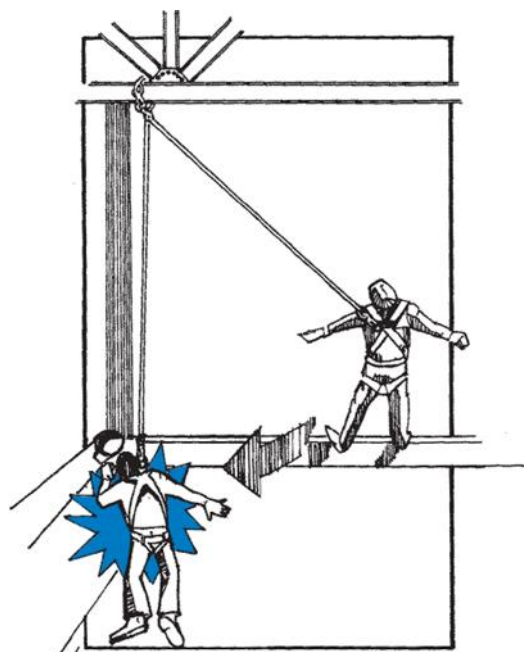
A manual rope grab does not move freely with you. It is always in a locked position on the lifeline and must be re-positioned by hand. Manual rope grabs are best suited for use in fall restraint systems.

The Canadian Standards Association (CSA) considers manual rope grabs to be “*rope adjusting implements*.” They are not covered by a CSA Standard, but are acceptable for use when operated in accordance with the manufacturer’s instructions.



SWING-FALL HAZARD

Be careful not to tie off to an anchor in such a way that if you fall, you’ll swing into an obstruction. This is called a swing-fall hazard. A swing fall can be as harmful as falling to the ground.

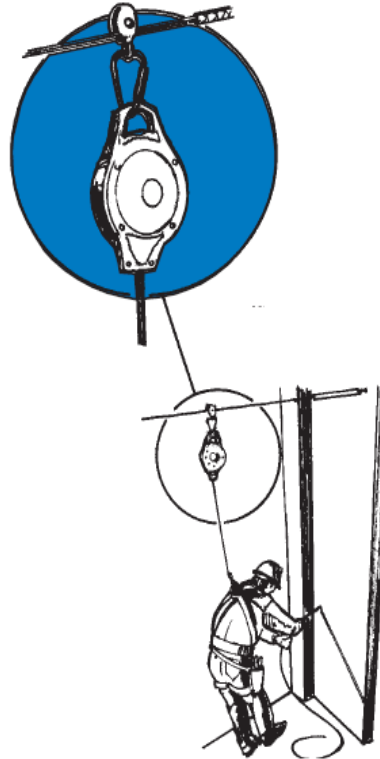


RETRACTABLE LIFELINES

A retractable lifeline is a specific type of vertical lifeline that works somewhat like the seat-belt of a car. The lifeline is coiled inside a protective housing. As you move up or down, the lifeline extends or retracts. The line is under constant tension and leaves no slack.

The moment you fall, the lifeline locks and stops your fall after a short distance. Many retractable lifelines have fall indicators on their protective housings. Do not use the lifeline if the indicator shows that a fall has occurred. After a fall, the manufacturer or the manufacturer's authorized agent must inspect the lifeline and approve it for continued use.

Always use a retractable lifeline block in the vertical position, unless specifically allowed for by the manufacturer.



11.2 HORIZONTAL LIFELINES

A horizontal lifeline consists of a synthetic or wire rope, or fixed rail, rigged between two substantial anchor points. These lifeline systems allow the worker to move horizontally along the work surface while being connected to the lifeline.

Horizontal lifelines and their anchors may be subject to extreme force in the event of a fall. Therefore, all **permanently** installed horizontal lifeline systems must be certified by a professional engineer.

Temporary horizontal lifeline systems are acceptable if they are:

1. Manufactured for commercial distribution, and installed and used according to the written instructions provided
2. Installed and used according to the written instructions of a professional engineer, or



3. Installed and used according to each of the following requirements:
 - The horizontal lifeline is a minimum 12 mm (½ in.) diameter wire rope having a breaking strength specified by the manufacturer of at least 89 kN (20,000 lb.)
 - The horizontal lifeline is free of splices except at the terminations
 - Connecting hardware, such as shackles and turnbuckles, has an ultimate load capacity of at least 71 kN (16,000 lb.)
 - The span is at least 6 m (20 ft.) and not more than 18 m (60 ft.)
 - End anchors have an ultimate load capacity of at least 71 kN (16,000 lb.)
 - The horizontal lifeline has an unloaded sag of approximately the span length divided by 60
 - The elevation of the line at any point is at least 1 m (39 in.) above the working surface
 - The free fall distance is limited to 1.2 m (4 ft.)
 - A minimum of 3.5 m (12 ft.) of unobstructed clearance is available below the working surface
 - No more than three (3) workers are secured to the horizontal lifeline
 - The horizontal lifeline is positioned so it does not impede the safe movement of workers

11.3 AFTER A FALL

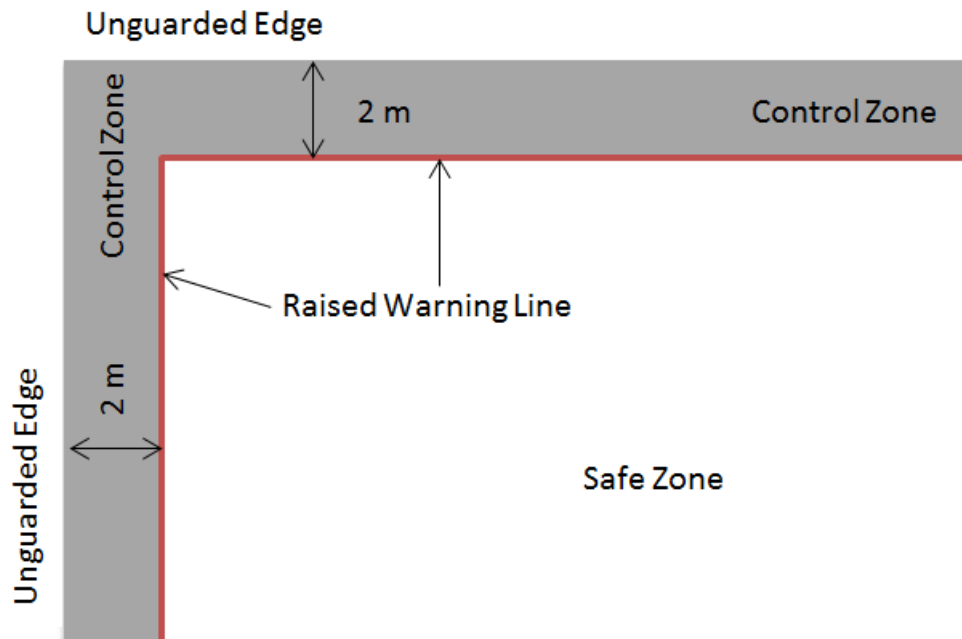
After a fall, **immediately remove from service all equipment used to arrest the fall**. You cannot use the equipment again until it's been inspected and approved by the manufacturer or other approved agent, or by a professional engineer.

12 CONTROL ZONE

When work is being completed on a level surface area with an unguarded edge, the employer must set up a control zone. The control zone is the distance between the unguarded edge and a raised warning line; the line marks the end of the safe zone and must be set a minimum of 2 metres from the unguarded edge. Other effective methods for the raised warning line are guardrails, ropes, or delineators, etc.

Workers crossing the control zone to access the safe zone do not require a fall restraint system as long as they use the most direct route. Also, workers performing work in the safe zone do not require a fall restraint system.

Workers completing work within the control zone are required to wear a travel restraint system to prevent them from reaching the unguarded edge. The travel restraint must be properly set to the distance required for the work, but not any longer than necessary. Employers must conduct a hazard assessment and consider additional ways to complete work; if safer, the use of equipment or lifts can be recommended.



Control Zone (work): Travel restraint required; additional PPE may be required as per the hazard assessment.

Control Zone (non-work/passing through): Travel restraint not required; additional PPE may be required as per the hazard assessment.

Safe Zone: Travel restraint not required; additional PPE may be required as per the hazard assessment.

APPENDIX A – WRITTEN FALL PROTECTION PLAN

Online PDF [fillable version](#).

Fall Protection – Personal Protective Equipment

Workers' Safety & Compensation Commission
Northwest Territories and Nunavut

WSCC Emergency Reporting
24-hour Incident Reporting Line

1 800 661-0792

WSCC



If you would like this Code of Practice in another language, please contact us.