

Personal Protective Equipment

Body Belts, Harnesses, and Lanyards

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What should you know about fall protection?

If you are at risk for falling 3 metres (10 feet) or more at your workplace, you should wear the appropriate fall protection equipment. In general, fall protection is required under Canadian law when there is a risk of falling 3 metres (or less, in some instances). Refer to your [jurisdiction's legislation](#) for the specific requirements for fall protection when working at heights.

If fall protection is required, establish a complete fall protection program if one is not in place. The program should include educating and [training](#) workers, selecting and fitting the equipment for the task and the worker, and knowing how to inspect the equipment.

What should you know about fall protective equipment?

- The wearer should inspect their equipment before each use.

- Keep a written record of the inspection.
- Replace defective equipment. If there is any doubt about the safety of the equipment, do not use it and ask your supervisor for help.
- Replace any equipment, including ropes, that have been involved in a fall. Do not use until you have asked your supervisor and/or checked with a competent person or the manufacturer.
- Every piece of [fall arrest](#) equipment should be inspected and certified at least yearly or more often by a trained and competent person. Keep written records of inspections and approvals.
- Use shock absorbers if the arresting forces of the lanyard alone can cause injury (unless doing so can cause the wearer to hit the ground or an object after falling).
- Follow the manufacturer's instructions about:
 - The purpose of the device
 - Hazard warnings
 - Use and limitations
 - The stretch distance of the harness
 - Fitting and adjusting
 - Recommendations for care (cleaning, maintenance, and storage) and inspection
 - The purpose and function of the fall arrest indicator
 - A warning if a fall occurs or inspection reveals an unsafe condition that the device be taken out of service until it has been determined safe for use or destroyed by a competent person
 - Instructions for proper application, use, and connecting to full body harness of any rescue device.

- Use the right equipment for the job. Refer to the series of CSA Standards Z259, including:
 - Z259.1-05 (R2024) "Body belts and saddles for work positioning and travel restraint"
 - Z259.2.3:16 (R2020) "Descent devices"
 - Z 259.10-18 (R2023) (R2016) "Full Body Harnesses"
 - Z259.11-17 (R2021) "Personal energy absorbers and lanyards"
 - Z259.12-16 (R2021) "Connecting components for personal fall-arrest systems (PFAS)"
 - Z259.17:21 "Section and use of active fall-protection equipment and systems"
 - and any other standards or legislation that may apply.

Note: CSA uses the term "body belt" instead of "safety belt" to avoid creating expectations that these belts could be used to arrest falls.

Are body belts, harnesses, and lanyards always required?

Fall protection is required when working at heights that could result in injury from a fall (usually 3 metres). Fall protection can refer to multiple elements such as barriers, [safety nets](#), and personal protection equipment. Comply with your jurisdiction's [legal requirements](#) for selecting appropriate fall protection measures.

In general, the [hierarchy of controls for fall protection](#) should be followed. This method means implementing the most effective measures first, such as eliminating the need to work at heights altogether, if possible, or installing barriers.

Do body belts, harnesses, and lanyards have use limits?

Yes. Body belts, harnesses, and lanyards are designed for use by people (not other loads) and have weight limits. Always follow the use limits established by the equipment's manufacturer.

Do body belts, harnesses, and lanyards need to be certified and inspected?

Legislation in Canada requires that fall protection devices meet an approved standard. The legislation sometimes, but not always, requires that personal protective equipment be re-certified. For example, the legislation in Alberta requires that personal protective equipment used as part of a [fall protection plan](#) be re-certified as specified by the manufacturer, while the legislation in British Columbia and Ontario does not have such a specific requirement. However, employers have a general duty to protect their workers, and re-certification can help ensure that the equipment offers the same level of protection offered by new equipment. The equipment manufacturer may recommend re-certification or inspections by qualified persons at certain frequencies. The equipment needs to be inspected before each use.

Standards may also recommend frequencies for inspections. For example, CSA standard Z259.10-18 (R2023) Full body harnesses suggests an annual (or more frequent) inspection by a trained and competent person.

Some inspection guidance is provided below but always refer to the user instructions from the equipment's manufacturer.

How do you inspect the webbing (body of belt, harness, or lanyard)?

- Inspect the entire surface of webbing for damage. Beginning at one end, hold the body side of the webbing toward you, grasp the belt with your hands six to eight inches apart and bend it in the shape of an upside down "U". Repeat this for the entire length of the webbing.
- Watch for frayed edges, broken fibres, pulled stitches, cuts, or chemical damage. Broken webbing strands generally appear as tufts on the webbing surface.
- Replace according to manufacturers' guidelines.

How do you inspect the buckle?

- Inspect for loose, distorted, or broken grommets. Do not cut or punch additional holes.
- Check any belt without grommets for torn or elongated holes that could cause the buckle tongue to slip.
- Inspect the buckle for cracks, breaks, distortion, and sharp edges. The outer and center bars must be straight. Carefully check the corners and attachment points of the center bar. They should overlap the buckle frame and move freely back and forth in their sockets. The roller should turn freely on the frame.
- Check that rivets are tight and cannot be moved. The body side of the rivet base and outside rivet burr should be flat against the material. Make sure the rivets are not bent.

- Inspect for pitted or cracked rivets that show signs of chemical corrosion.
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How do you inspect the rope?

- Rotate the rope lanyard and inspect from end to end for fuzzy, worn, broken or cut fibres. Weakened areas have noticeable changes in the original rope diameter.
 - Replace when the rope diameter is not uniform throughout, following a short break-in period.
 - The older a rope is and the more use it gets, the more important testing and inspection become.
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What should you know about hardware (forged steel snaps, D rings)?

- Inspect hardware for cracks, dents, bends, rust, corrosion, sharp edges, signs of deformation, or other defects. Replace the belt if the D ring does not sit appropriately and does not move vertically independent of the body pad or saddle.
 - Make sure that any hardware is not cutting into or damaging the belt or harness.
 - Inspect tool loops and belt sewing for broken or stretched loops.
 - Check bag rings and knife snaps to see that they are secure and working properly. Check tool loop rivets. Check for thread separation or rotting, both inside and outside the body pad belt.
 - Inspect snaps for hook and eye distortions, cracks, corrosion, or pitted surfaces. The keeper (latch) should be seated into the snap nose without binding and should not be distorted or obstructed. The keeper spring should exert sufficient force to close the keeper firmly.
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What should you look for during the safety strap inspection?

- Inspect for cut fibres or damaged stitches inch by inch by flexing the strap in an inverted "U." Note cuts, frayed areas, or corrosion damage.
 - Check the friction buckle for slippage and sharp buckle edges.
 - Replace when tongue buckle holes are excessively worn or elongated.
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How do I clean my equipment?

Basic care increases the life of the unit and contributes to its performance. Follow the manufacturer's instructions on how to care and clean the equipment. Steps may include:

- Wipe off all surface dirt with a sponge dampened in plain water. Rinse the sponge and squeeze it dry. Dip the sponge in a mild solution of water and commercial soap or detergent. Work up a thick lather with a vigorous back and forth motion.
 - Rinse the webbing in clean water.
 - Wipe the belt dry with a clean cloth. Hang freely to dry.
 - Dry the belt and other equipment away from direct heat, and out of long periods of sunlight.
 - Store in a clean, dry area, free of fumes, sunlight, corrosive materials, sharp edges, or vibration, and in such a way that it does not warp or distort the belt.
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Where can I learn more about fall protection?

The topic of fall protection goes beyond body belts, harnesses, and lanyards. Refer to the following OSH Answers fact sheets to learn more:

- [Fall Protection - Anchors](#)
 - [Fall Protection - Guardrails](#)
 - [Fall Protection - Legislation for Anchor Strength](#)
 - [Fall Protection - Toeboards](#)
 - [Fall Protection - Travel Restraint System](#)
 - [Fall Protection - Working at Heights Rescue Plan](#)
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