

Fall Protection Training Working Safely at Heights

Participant Workbook

WorkSafe Consulting Services

Participant Name: _____



WorkSafe Consulting Services- Fall Protection Training Working Safely At Heights.

WorkSafe Consulting Services is committed to helping Employers and Employees to take a pro-active approach to loss prevention in the workplace.

Fall Protection Working at Safely Working at Heights

Instructional Objectives

In this module participants will learn

- a.) How falls happen;
- b.) What the regulations say about working at heights.
- c.) How to identify fall from height hazards in your workplace or on the job site.

Overview

The workplace is not exempt from the laws of gravity. According to Statistics Canada, falls are one of the leading causes of workplace deaths and the second leading of workplace injuries across Canada.

The Good News – fall incidents are preventable with the proper training. The worker has total control in preventing workplace falls through gaining the skills and knowledge necessary to correctly use the various forms of fall protection equipment.



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Accidents involving falls from heights

00-2	Fall from Ladder	Fatality
99-12	Fall from Height	Fatality
99-10	Fall	Broken Arm/Laceration
99-8	Fall	Fatality
99-7	Multiple Injuries	Temporary Disability
99-2	Fall Mishap	Compound Fracture, Right Hand and Wrist
99-1	Fall, Different Level	Broken Ankle
98-4	Fall Mishap	Serious Broken Left and Right Ankles, Leg and Vertebrae
98-3	Trip/Fall from elevation	Fatality – Cerebral Contusion and Skull Fractures
98-1	Fall from 4 th Floor Double Door Wall Opening	Fatality
97-2	Fall Mishap	Fluid on Brain; Four Cracked Vertebra
96-2	Fall from forklift	Multiple Fractures, Laceration, torn tendon
96-11	Fall from Elevation	Head Injury (Laceration)
96-6	Fall while Dismantling/Erecting Scaffolding	Laceration
95-6	Fall from Scaffolding	Fatality
95-4	Fall from Elevation	T-12 Vertebra to Back Injured
94-4	Fall from Ladder	Multiple Fractures of Right Leg, Lacerated Right Knee, Contusion to Face, Abrasion on Right Small Finger and Pain in Lower Back
93-7	Fall from Ladder	Fracture/Dislocation of Elbow
92-18	Fall from Three-Story Superstructure	Fatality
92-17	Fall from Scaffold	Broken Bones and Internal Injuries
92-14	Fall	Fatality
92-7	Fall	Fatality
91-3	Fall	Fatality
90-1	Contractor Fatality	Fatal Puncture Wounds

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Sections of the Industrial Regulations Related To Falls From Heights

13 (1) Subject to subsection (2), there shall be a guardrail,

(a) around the perimeter of an uncovered opening in a floor, roof or other surface to which a worker has access;

(b) at an open side of,

(i) a raised floor, mezzanine, balcony, gallery, landing, platform, walkway, stile, ramp or other surface, or

(ii) a vat, bin or tank, the top of which is less than 107 centimetres above the surrounding floor, ground, platform or other surface; and

(c) around a machine, electrical installation, place or thing that is likely to endanger the safety of any worker. R.R.O. 1990, Reg. 851, s. 13 (1).

(2) Subsection (1) does not apply to,

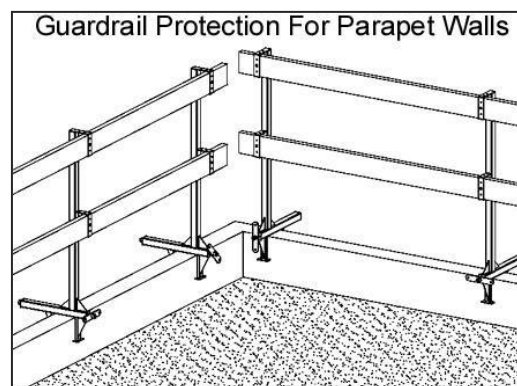
(a) a loading dock;

(b) a roof to which access is required only for maintenance purposes; and

(c) a pit used for,

(i) work on an assembly line, or

(ii) maintenance of vehicles or similar equipment.



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14. (1) A guardrail shall,
- (a) have a top rail located not less than 91 and not more than 107 centimetres above the surface to be guarded;
 - (b) have a mid rail;
 - (c) if tools or other objects may fall on a worker, have a toe-board that extends from the surface to be guarded to a height of at least 125 millimetres; and
 - (d) be free of splinters and protruding nails.
- (2) A guardrail shall be constructed to meet the structural requirements for guards as set out in the Building code. R.R.O.1990, Reg.851, s14.
15. A cover on an opening in a floor, roof or other surface shall be,
- (a) secured in place; and
 - (b) constructed to meet the structural requirements for loads due to the use of the floors and roofs as set out in the Building Code.
18. (1) Subject to subsection (2), an access ladder fixed in position shall,
- (a) be vertical;
 - (b) have rest platforms at not more than nine metre intervals;
 - (c) be offset at each rest platform;
 - (d) where the ladder extends over five metres, above grade, floor or landing, have a safety cage commencing not more than 2.2 metres above grade and continuing at least ninety centimeters above the top landing with openings to permit access by a worker to rest platforms or to the top landing;
 - (e) have side rails that extend ninety centimetres above the landing; and
 - (f) have rungs, which are at least fifteen centimetres from the wall and spaced at regular intervals.

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Sections of the Industrial Regulations Related To Falls From Heights

19. Where frequent access is required to equipment elevated above or located below floor level, permanent platforms shall be provided with access by a fixed,
 - (a) stair; or
 - (b) access ladder.
52. A crane, lift truck or similar equipment shall be used to support, raise or lower a worker only when,
 - (a) the worker is on a platform,
 - (i) equipped with adequate safety devices that will automatically prevent the platform and load from falling if the platform's normal support fails ...

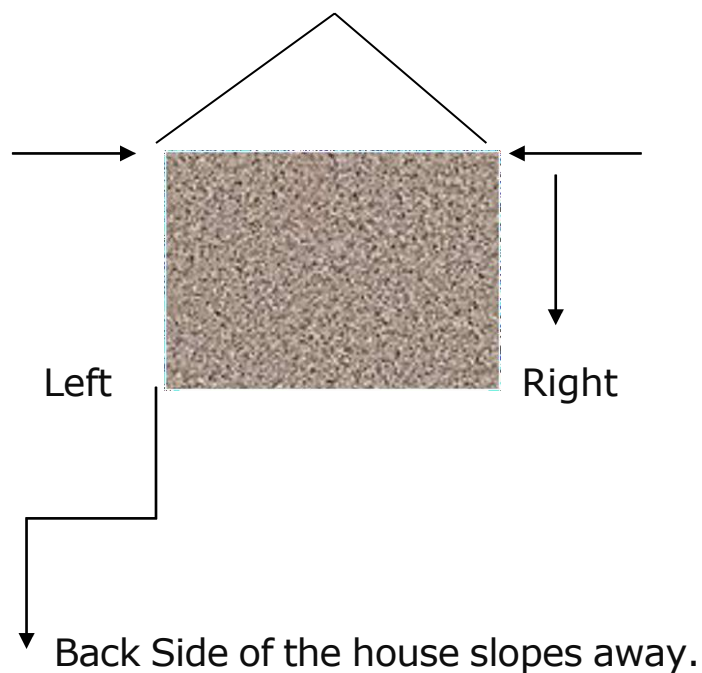


Scissor Lift Platform

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Sections of the Industrial Regulations Related To Falls From Heights

85 Where a worker is exposed to the hazard of falling and the surface to which he or she might fall is more than three metres below the position where he or she is situated,



Feet at below 3 meters

3 meters = 9.9 feet from your feet

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Sections of the Industrial Regulations Related To Falls From Heights

85 (a) the worker shall wear a serviceable safety belt or harness and lifeline that is adequately secured to a fixed support and so arranged that the worker cannot fall freely for a vertical distance of more than 1.5 metres and so arranged so that you do not exceed more than 18.5 feet of free fall distance to the ground.

See the math: Minimum clearance is 18.5 feet. So you need to consider the height of the person (ie 6ft), the length of lanyard (which is 3 feet), the lanyard deploying (3 feet) and then we add in 3.5 as a safety factor = 18.5 feet. Your anchor point must be at more than 18.5 feet from the ground in order for Fall Arrest Equipment to Work. If you are working with a long lanyard you may find that if you fall you will hit the ground.



This is fall protection decoration.

You need to do the math, to determine where the anchor point needs to be applied and which system will you be working with, fall arrest or travel restraint.

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Sections of the Industrial Regulations Related To Falls From Heights

85 (b) the fall arrest system described in clause (a) shall,

- (i) have sufficient capacity to absorb twice the energy and twice the load that under the circumstances of its use may be transmitted to it, and
- (ii) be equipped with a shock absorber or other devices to limit the maximum arresting force to 8.0 kilonewtons to the worker.

Rated Capacity



(a) Full Body Harness



With Rated Size

Limiting Device



(b) Fall Arrest Systems



Soft Pack

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Sections of the Constructions Regulations Related To Falls

Personal Protective Requirements (PPE)

26. Sections 26.1 to 26.9 apply where a worker is exposed to any of the following hazards:

1. Falling more than 3 metres- 9.9 feet.
2. Falling more than 1.2 metres- 4 feet, if the work area is used as a path for a wheelbarrow or similar equipment.
3. Falling into operating machinery.
4. Falling into water or another liquid.
5. Falling into or onto a hazardous substance or object.
6. Falling through an opening on a work surface.

Engineer out the Fall- The Best way to control Fall Hazards....

26.1 (1) A worker shall be adequately protected by a guardrail system that meets the requirements of subsections 26.3 (2) to (8). O. Reg. 145/00, s. 12.

See: Resources Section at the back of the book for Construction Guardrail Requirements.

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(2) Despite subsection (1), if it is not reasonably possible to install a guardrail system as that subsection requires, a worker shall be adequately protected by at least one of the following methods of fall protection:

1. A travel restraint system that meets the requirements of section 26.4.
2. A fall restricting system that meets the requirements of section 26.5.
3. A fall protection system, other than a fall restricting system designed for use in wood pole climbing, that meets the requirements of section 26.6.
4. A safety net that meets the requirements of section 26.8. O. Reg. 145/00, s. 12; O. Reg. 85/04, s. 5 (1).

Let's look at the differences in the equipment....

Travel Restraint System (First Option- Removes The Fall Hazard)

- a.) Full Body Harness
- b.) Lanyard without Limiting Device
- c.) Anchor Point (Capable of withstanding twice the weight of the worker.)



(a) Full Body Harness



(b) Retractable or Web Lanyard

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(c) Travel Restraint System Anchor Point



No Fall Hazard

- 2.) Fall Restricting Systems – Restrict the movement of the worker by positioning the worker, so that they don't swing or drop. Full Body Harness, Lanyard (No Limiting Device and an Anchor Point).



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- 3.) Fall Protection Systems- This system is used because, the situation we are in or the work being performed means that we may fall. The equipment includes a full body harness, lanyard with a limiting device and an anchor point capable of withstanding 5000 lbs (the weight of a small car).



Fall Protection Equipment

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- 4.) Safety Net –means the worker may fall and the safety net will catch the worker in it.



26 1 (3) The components of any system listed in subsection (2) shall be designed by a professional engineer in accordance with good engineering practice, and shall meet the requirements of any of the following National Standards of Canada standards that are applicable:

1. CAN/CSA-Z259.1-05: Body Belts and Saddles for Work Positioning and Travel Restraint.
2. CAN/CSA-Z259.2.1-98 (R2008): Fall Arresters, Vertical Lifelines and Rails.
3. CAN/CSA-Z259.2.2-98 (R2004): Self-Retracting Devices for Personal Fall-Arrest Systems.
4. CAN/CSA-Z259.2.3-99 (R2004): Descent Control Devices.
5. CAN/CSA-Z259.10-06: Full Body Harnesses.
6. CAN/CSA-Z259.11-05: Energy Absorbers and Lanyards.
7. CAN/CSA-Z259.12-01 (R2006): Connecting Components for Personal Fall Arrest Systems (PFAS).
8. CAN/CSA-Z259.14-01 (R2007): Fall Restrict Equipment for Wood Pole Climbing. O. Reg. 85/04, s. 5 (2); O. Reg. 443/09, s. 1.

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Emergency Rescue Procedures – For Fall Arrest

26 1 (4) Before any use of a fall arrest system or a safety net by a worker at a project, the worker's employer shall develop written procedures for rescuing the worker after his or her fall has been arrested. O. Reg. 145/00, s. 12.



Emergency Rescue

Just a few years ago it was fairly common for employers not to be aware of the "after fall" hazards created by Fall Arrest Systems. The understanding was that the Fall Arrest Systems did its job and the emergency was averted. However, in 2004, a Safety and Health Information Bulletin was published that provided advice and information on suspension trauma/orthostatic intolerance. In fact, the bulletin states that "research indicates that suspension...can result in unconsciousness, followed by death, in less than 30 minutes." As a recognized hazard, an understanding of suspension trauma makes it clear that post fall arrest suspended workers are still at risk of serious and possibly fatal injury even in the absence of primary injury prior to, or during the fall.

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Where possible:

Remove the Fall Hazards by using Guard Rails or use Protective Covers

26.3 (1) Despite paragraph 1 of section 26, a guardrail system that meets the requirements of this section shall be used if a worker has access to the perimeter or an open side of any of the following work surfaces and is exposed to a fall of 2.4 metres- 94" (7' -10") or more:

1. A floor, including the floor of a mezzanine or balcony.
2. The surface of a bridge.
3. A roof while formwork is in place.
4. A scaffold platform or other work platform, runway or ramp. O. Reg. 145/00, s. 14.

(2) One of the following precautions shall be used to prevent a worker from falling through an opening on a work surface:

1. A guardrail system that meets the requirements of this section.
2. A protective covering that,
 - i. completely covers the opening,
 - ii. is securely fastened,
 - iii. is adequately identified as covering an opening,
 - iv. is made from material adequate to support all loads to which the covering may be subjected, and
 - v. is capable of supporting a live load of at least 2.4 kilonewtons- 539.5 pound force per square metre without exceeding the allowable unit stresses for the material used. O. Reg. 145/00, s. 14.

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Life Lines

26.9 (1) This section applies to a lanyard or lifeline that is part of a travel restraint system or a fall arrest system. O. Reg. 145/00, s. 14.

(2) The following requirements apply to a lanyard or a lifeline:

1. It shall not be used in such a way that it is likely to be cut, chafed or abraded.
2. It shall not be subjected to extreme temperature, flame, abrasive or corrosive materials or other hazards that may damage it.
3. The free end of the lanyard or lifeline shall be kept clear of equipment and machinery. O. Reg. 145/00, s. 14.

(3) Only one person at a time may use a lanyard. O. Reg. 145/00, s. 14.

(4) The connecting ends of a lanyard shall be wrapped around a protective thimble and securely fastened with a swaged fitting or eye splice supplied by the manufacturer of the lanyard. O. Reg. 145/00, s. 14.

(5) A horizontal or vertical lifeline shall be kept free from splices or knots, except knots used to connect it to a fixed support. O. Reg. 145/00, s. 14.

(6) Only one person at a time may use a vertical lifeline. O. Reg. 145/00, s. 14.

(7) A vertical lifeline shall,

- (a) extend to the ground; or
- (b) have a positive stop that prevents the rope grab or other similar device from running off the end of the lifeline. O. Reg. 145/00, s. 14.

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Vertical Lifeline



Example: Rope Grab System



The connecting ends of a lanyard shall be wrapped around a protective thimble and securely fastened with a swaged fitting or eye splice supplied by the manufacturer of the lanyard.



Blue Rope with Pink thread wrapped together with the rope.

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Life Lines

Horizontal



(8) The following requirements apply to a horizontal lifeline system:

1. It shall be designed by a professional engineer in accordance with good engineering practice.
 2. The design may be a standard design or a custom design.
 3. The design shall,
 - i. show the arrangement of the system including the anchorage or fixed support system,
 - ii. indicate the components used,
 - iii. state the number of workers that can safely be attached to it,
 - iv. set out instructions for installation or erection, and
 - v. show the design loads for the system.
 4. The system shall be installed or erected, and maintained, in accordance with the professional engineer's design.
 5. Before each use, the system shall be inspected by a professional engineer or a competent worker designated by a supervisor.
 6. The constructor shall keep the design at the project while the system is in use.
- O. Reg. 145/00, s. 14.

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Hazard Recognition

What do we need to do to recognize the “fall” hazards?

All too often, we recognize there is a problem or a potential problem when:

- (i) someone falls in our workplace resulting in an injury, or he has had a history of falls in the past, or
- (ii) we hear/read in/on the news that someone else has died or been seriously injured as a result of a fall at a workplace; until then, we never think it can happen to us.

Don't rely on luck or worker good-fortune to protect you. All workplaces have a risk of fall injuries. Unless the hazards are identified and controlled or managed, it's no longer a question of “if it will happen”, it becomes a question of “when will it happen”.



You are required to know what your hazards are!

Recognizing the Risks:

A component of a fall protection program is to increase awareness and recognition of potential fall hazards that exists in your work environment.

List the Potential Fall Hazards:

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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Assess the Risk

Are there standards for the job?

Are there procedures?

Written Code of practice for the task?

Is Proper equipment being used?

Is training completed?



Controls

Once potential fall hazards have been identified, the next step is to eliminate or control them:

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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Controls

Fall From Heights Planning

The single most important component of a program to control falls from heights in planning! Determine in advance what type of work is to be done, who is to do it and under what circumstances. In this way, you can determine what fall exposures may exist, what safety controls will be needed and if adequate controls can be put in place.

One way to do adequate planning is to form a team to plan and determine the best means of controlling exposures to falls from heights. This team would be composed of the health and safety coordinator, supervisors and workers and maintenance manager.

The team is responsible for development of practices and procedures for work at heights including:

- Selection of equipment
- Inspecting equipment
- Emergency rescue, and
- Training

Controls

Priority should be given to eliminating the need to work at heights.

This can be done by engineering out the need to do the work at heights, or contracting out the work to qualified, competent, knowledgeable persons. Those tasks that cannot be engineered should be controlled by installing or using the following:

- a) Permanent walkways with guardrails
- b) Scissor Lifts/ Man Lifts
- c) Travel Restraint Systems, Safety Nets
- d) Fall arrest system(s)

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It should be recognized that certain control measures such as permanent walkways with guard rails are a better form of control than simply using a ladder, and/or a fall arrest system. Controlling the hazard may involve the use of more than one means of control; the basic rule applies that the greater the risk the more controls should be in place.

Standards/Guidelines, etc.

Once the control method(s) has been determined the team should source out appropriate guidelines/standards/regulations/best practices as determined for that control. (See attached references and guidelines for best practices information.)

Procedures

The team should create a step-by-step procedure to be used for the defined work incorporating the appropriate references and guidelines, and specific to the needs to the particular work.

Training

All procedures/practices related to fall protection should be communicated to supervisors and workers. Department supervisors should ensure that all workers affected by the fall protection procedures/practices have been trained in the following:

1. The slip/fall protection procedures/practices
2. The use, inspection, maintenance, storage and handling of all related equipment
3. The hazard associated with working at heights
4. Rescue and emergency procedures
5. Any other relevant training

Note: Fall protection users need both theory and practical training prior to using the equipment on the job. Trainees should be able to demonstrate "hands-on" competency of all training prior to being required to use fall protection equipment in actual work environments.

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Module 2

Understanding the Equipment

At this time all participants will follow along with the video, when the video starts with the in-class demonstration all participants will try on the equipment.

Video

Miller Fall Protection Basics of Fall Protection Part 1 of 2 (English)

Inspecting the Equipment

All participants will follow along with the video to demonstrate how an equipment inspection is completed.

You are required to inspect all equipment daily, prior to each shift.

Video

Miller Fall Protection Basics of Fall Protection Part 2 of 2 (English)

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Full-body Harness/Safety Belt

- Clearly distinguish which is to be used in your program; train workers to the difference and when each one is used; common practice now is to eliminate safety belts altogether, and only use full-body harness.
- If a harness fails the formal inspection process, it must be marked Unusable and removed from service.
- Look for cuts, abrasions or open stitching, chemical or heat damage.
- Inspect the D-ring for distortion, cracks, or other damage.
- Adjustment plate holding the D-ring should be free from distortion, cracks or other damage.
- Check for kinks and twists once harness is put on.
- Clean harness when task is completed. It is usually cleaned in mild detergents, not solvents.
- Manufacturer's instructions should be followed regarding the service life of belts and harnesses.



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Lanyards

- Lanyards should be of the appropriate type: either fall arrest or travel restraint type lanyards.
- Never tie knots in lanyards to shorten them.
- Lanyards must be retired immediately under the following conditions:
 1. After a fall;
 2. When an integral shock absorber has been totally or even partially deployed; and
 3. If the lanyard has been used for any purpose other than fall protection. A retired lanyard should be cut in two to ensure it is never used again.

Most lanyards have a service life of 5 years; check the date of manufacture.

Inspect the lanyard for cracks or other distortion or damage

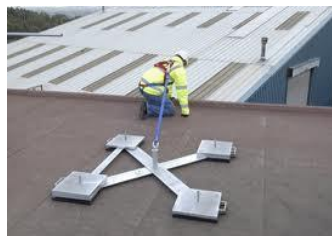
Fall Arrest Lanyards



or



Travel Restraint Lanyard



No Limiting Device

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Shock Absorber

- Check the outer jacket for signs of damage.
- Check the end loops for damage, cracks, etc.
- Remove a shock absorber if found to be damaged.



Snap Hooks

- Snap hooks must be connected to compatible hardware and must never be attached to another snap hook.
- Check the snap hook for damage, pitting, or distortion.
- Ensure that the spring has enough tension to close the keeper.
- Ensure that the keeper and locking mechanism work properly without binding and without excessive lateral play.



To Open, Squeeze Front to Back



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Rope/Lifelines

- Ropes should be kept clean.
- Do not use knots in ropes since this reduces their strength by up to 50%.
- Rope must always be protected over sharp edges.
- All rope material should be stored away from heat and direct UV light.
- Always look for areas where the rope material is separating and out of shape. Check for broken fibers and severely worn area of the protective sheath.
- Do not allow rope to come into contact with acids, oils, or other chemicals.
- Ropes of natural fibers must never be used for vertical lifelines.
- All falls must be reported to the person inspecting the fall arrest equipment.
- Vertical lifelines should be at least 16mm diameter polypropylene or other material of equal strength.
- Check the eyes of the rope for deformities or cracks.
- Many different types of ropes exist: kernmantle, braided, twisted, manila, hemp, jute, nylon, polyester, polypropylene, polysteel, kevlar, spectra, etc. One should know the type to use for the application.



Safe use of ropes requires skill, training and practice: ensure the user is qualified to use these ropes and is aware of their limitations.

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Webbing

- Routinely inspect all webbing for tears, fraying, or other damage.
- Ensure grommets are not loose, broken or missing.
- Inspect tongue area of belt or harness for normal wear.

Retractable Lifelines

- All three components must always be inspected prior to each use and according to the manufacturers' recommended frequency: the self-retracting lifeline, the locking mechanism, and the braking mechanism.
- Usually needs to be certified on a yearly basis (or sooner based on the working environment) by the manufacturer or an approved agent.
- Due to the nature and complexity of the retracting mechanism, overhaul, inspection and maintenance should be left to a competent and knowledgeable person.



Fall Protection Working at Safely Working at Heights

Unguarded Rotating Trolley Track Hoist Drum a Hazard for Workers

Disclaimer:

This resource has been prepared to help the workplace parties understand some of their obligations under the Occupational Health and Safety Act (OHSA) and regulations. It is not legal advice. It is not intended to replace the OHSA or the regulations.

For further information please see full disclaimer

Workers have been injured while operating portable trolley track hoists used to raise material to a roof of a building. Typically these hoists are equipped with guards over the drive belt and brake components of the hoist but are not guarded or fenced to prevent a worker from accessing either the rotating hoist drum or the pinch point between the drum and the cable.

This hazard alert is intended to help the workplace parties, including manufacturers and suppliers, be aware of the drawing-in (in-running pinch point) hazard on trolley track hoists that do not have a fixed guard or barrier to prevent a worker from accessing either the rotating hoist drum or the pinch point between the drum and the cable.



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The Hazard

Drawing-in hazard associated with the cable and reel Drawing-in hazards (also called in-running nip, or in-running pinch point) are created between two counter rotation objects, a rotating object and a stationary object or material wrapping around a rotating cylinder. With trolley track hoists, the drawing-in hazard is created by the cable wrapping around the hoist drum. The pinch point is considered the point where the cable contacts the drum. The operator's fingers can be pinched between the cable and the hoist drum as the cable wraps around the drum.

As required by the Construction Regulation (Construction Projects, O Reg 213/ 91) "Every gear, pulley, belt, chain, shaft, flywheel, saw and other mechanically-operated part of a machine to which a worker has access shall be guarded or fenced so that it will not endanger a worker" [section 109].

Hoist drum - spool on the hoist onto which the cable is wound



The Occupational Health and Safety Act, OHSA, requires employers to acquaint a worker or a person in authority over a worker with any hazard in the work and in the handling and use of any equipment [Section 25(2)(d)]. Therefore, employers must identify the drawing in hazard to workers or a person in authority over the workers. Pursuant to section 109 of the Construction Regulation, an employer must guard or fence the hoist to prevent workers from coming into contact with the cable as it is wrapping around the hoist drum. In these situations, guards are used to prevent workers being exposed to hazards from moving parts on machines.

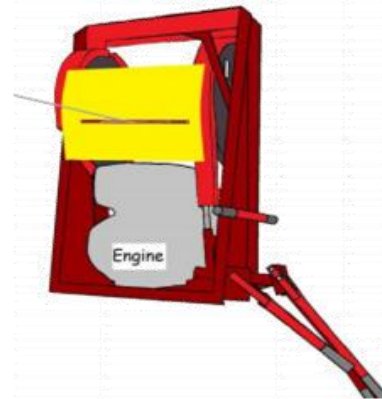
Potential Protective Measures

In the case of the trolley track hoist the operator can be protected from the drawing-in hazard between the cable and the reel using one or more of the following methods. The examples below may not be applicable in all circumstances. For example, methods #2 and #3 protect only the operator, not other workers who may be working in the vicinity of the hoist and be exposed to the drawing-in hazard. A manufacturer of this type of hoist stated that unhooking a load requires a second worker in addition to the operator. The operator releases the brake while the second worker slackens the hoist cable. If there are workers exposed to this hazard other than the operator, a guard or fence protecting all the workers is required by section 109 of the Construction Regulation.

Fall Protection Working at Safely Working at Heights

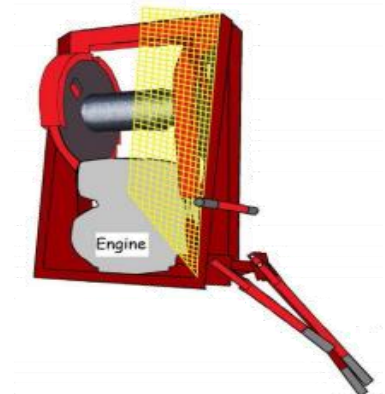
1. Guard the hazard area in front of the reel - Fixed Guard Example

A fixed guard attached to the front of the reel can prevent the operator from placing his or her hand close to the hazard and other workers from being drawn in to the pinch point. A Fixed Guard cannot be removed without tools. (This is an example the size is not to scale)



2. Barrier on the power pack – only applicable if the operator is the only worker exposed to the hazard

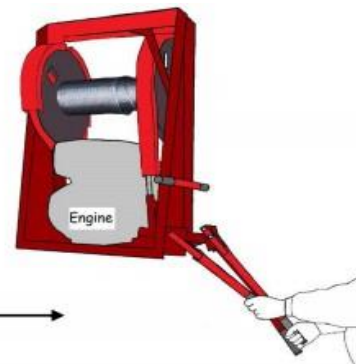
A fixed guard attached to the front of the reel can prevent the operator from placing his or her hand close to the hazard. A Fixed Guard cannot be removed without tools. (This is an example the size is not to scale)



3. Two-hand control – only applicable if the operator is the only worker exposed to the hazard

Normally, to raise a load the operator pulls up on the clutch lever which in turn lifts the brake lever and only one hand is required to drive the reel. The left hand is normally on the stabilizer to keep the power pack from swinging. The controls could be designed such that the drive is activated with two levers simultaneously forcing the operator to have two hands on the controls. This type of safeguard only protects the operator.

Two hands must be used to drive the reel to raise a load.



Fall Protection Working at Safely Working at Heights

For more information contact:

Ministry of Labour Health & Safety Contact Centre toll-free at 1-877-202-0008.

Infrastructure Health and Safety Association – www.ihsa.ca

Ministry of Labour website – www.labour.gov.on.ca

Local Ministry of Labour office – www.labour.gov.on.ca/english/about/reg_offices.php

ServiceOntario e-laws - www.e-laws.gov.on.ca

Remember that while complying with occupational health and safety laws, you are also required to comply with applicable environmental laws.

Please photocopy Ministry of Labour Alerts, distribute them widely and post them where people will see them.

Fall Protection Working at Safely Working at Heights

Resources

Guardrail Requirements

- (3) The guardrail system or protective covering required under subsection (1) or (2) may be removed temporarily to perform work in or around the opening if a worker is adequately protected and signs are posted in accordance with subsections 44 (1) and (2). O. Reg. 145/00, s. 14.
- (4) The following are the specifications for a guardrail system:
 - 1. It shall have a top rail, an intermediate rail and a toe board.
 - 2. The intermediate rail may be replaced by material that can withstand a point load of 450 newtons applied in a lateral or vertical downward direction.
 - 3. Subject to subsection 116 (8), the top of the guardrail system shall be located at least 0.9 metres but not more than 1.1 metres above the surface on which the system is installed.
 - 4. The intermediate rail shall be located midway between the top rail and the toe board.
 - 4.1 The toe board shall extend from the surface to which the guardrail system is attached to a height of at least 89 millimetres.
 - 5. If the guardrail system is located at the perimeter of a work surface, the distance between the edge of the surface and the guardrail system shall not be greater than 300 millimetres. O. Reg. 145/00, s. 14; O. Reg. 443/09, s. 2 (1).
- (5) A guardrail system shall be capable of resisting anywhere along the length of the system the following loads when applied separately, without exceeding the allowable unit stress for each material used:
 - 1. A point load of 675 newtons applied in a lateral direction to the top rail.
 - 2. A point load of 450 newtons applied in a vertical downward direction to the top rail.
 - 3. A point load of 450 newtons applied in a lateral or vertical downward direction to the intermediate rail, or midway between the top rail and the toe board.
 - 4. A point load of 225 newtons applied in a lateral direction to the toe board. O. Reg. 145/00, s. 14.

Fall Protection Working at Safely Working at Heights

- (6) The distance between any two adjacent posts of the guardrail system may be greater than 2.4 metres only if the system is capable of resisting the loads specified in subsection (5) increased in proportion to the greater distance between the posts. O. Reg. 443/09, s. 2 (2).
- (7) The following additional requirements apply to a guardrail system that is made of wood:
1. The wood shall be spruce, pine or fir (S-P-F) timber of construction grade quality or better and shall not have any visible defect affecting its load-carrying capacity.
 2. The wood shall be free of sharp objects such as splinters and protruding nails.
 3. The system shall have posts that are at least 38 millimetres by 89 millimetres, are securely fastened to the surface and are spaced at intervals of not more than 2.4 metres.
 4. The top rail and the intermediate rail shall each be at least 38 millimetres by 89 millimetres. O. Reg. 145/00, s. 14; O. Reg. 443/09, s. 2 (3).
- (7.1) If a guardrail system that is made of wood is constructed and installed so that it is capable of resisting all loads that it may be subjected to by a worker, the following do not apply:
1. The requirement in paragraph 2 of subsection (4) that the replacement material can withstand a point load of 450 newtons.
 2. Subsections (5) and (6). O. Reg. 443/09, s. 2 (4).
- (8) The following additional requirements apply to a guardrail system that is made of wire rope:
1. The top rail and intermediate rail shall be made of wire rope that is at least 10 millimetres in diameter, and the rope shall be kept taut by a turnbuckle or other device.
 2. The outward deflection of the top rail and intermediate rail resulting from the loads specified in subsection (5) shall not extend beyond the edge of a work surface.
 3. The system shall have vertical separators at intervals of not more than 2.4 metres and horizontal supports at intervals of not more than 9 metres.
 4. Revoked: O. Reg. 443/09, s. 2 (6).

Fall Protection Working at Safely Working at Heights

Fall Protection Equipment Requirements

- 26.4 (1) A travel restraint system shall consist of a full body harness with adequate attachment points or a safety belt. O. Reg. 145/00, s. 14.
- (2) The full body harness or safety belt shall be attached by a lifeline or lanyard to a fixed support that meets the requirements of section 26.7. O. Reg. 145/00, s. 14.
- (3) The travel restraint system shall be inspected by a competent worker before each use. O. Reg. 145/00, s. 14.
- (4) If a component of the travel restraint system is found to be defective on inspection, the defective component shall immediately be taken out of service. O. Reg. 145/00, s. 14.
- 26.5 (1) A fall restricting system that is not designed for use in wood pole climbing shall consist of an assembly of components that is,
- (a) attached to an independent fixed support that meets the requirements of section 26.7; and
- (b) designed and arranged in accordance with the manufacturer's instructions and so that a worker's free fall distance does not exceed 0.6 metres. O. Reg. 85/04, s. 6.
- (2) A fall restricting system that is designed for use in wood pole climbing,
- (a) shall consist of an assembly of components that is designed and arranged in accordance with the manufacturer's instructions; and
- (b) shall not allow pole slippage in excess of the distances set out in the applicable National Standards of Canada standard referred to in subsection 26.1 (3). O. Reg. 85/04, s. 6.
- (3) A fall restricting system shall be inspected by a competent worker before each use. O. Reg. 85/04, s. 6.
- (4) If a component of the fall restricting system is found to be defective on inspection, the component shall be taken out of service immediately. O. Reg. 85/04, s. 6.
- (5) If a worker who is using the fall restricting system falls or slips more than the distance determined under clause (1) (b) or (2) (b), as the case may be, the system shall be taken out of service immediately and shall not be used again by a worker unless all components of the system have been certified by the manufacturer as being safe for reuse. O. Reg. 85/04, s. 6.

Fall Protection Working at Safely Working at Heights

- 26.6 (1) A fall arrest system shall consist of a full body harness with adequate attachment points and a lanyard equipped with a shock absorber or similar device. O. Reg. 145/00, s. 14.
- (2) The fall arrest system shall be attached by a lifeline or by the lanyard to an independent fixed support that meets the requirements of section 26.7. O. Reg. 145/00, s. 14.
- (3) The fall arrest system shall be arranged so that a worker cannot hit the ground or an object or level below the work. O. Reg. 145/00, s. 14.
- (4) Despite subsection (1), the fall arrest system shall not include a shock absorber if wearing or using one could cause a worker to hit the ground or an object or level below the work. O. Reg. 145/00, s. 14.
- (5) The fall arrest system shall not subject a worker who falls to a peak fall arrest force greater than 8 kilonewtons. O. Reg. 145/00, s. 14.
- (6) The fall arrest system shall be inspected by a competent worker before each use. O. Reg. 145/00, s. 14.
- (7) If a component of the fall arrest system is found to be defective on inspection, the defective component shall immediately be taken out of service. O. Reg. 145/00, s. 14.
- (8) If a worker who is using the fall arrest system falls, the system shall be immediately removed from service and shall not be used again by a worker unless all components of the system have been certified by the manufacturer as being safe for re-use. O. Reg. 145/00, s. 14.
- (9) Subsections (1) to (8) do not apply to fall restricting systems designed for use in wood pole climbing. O. Reg. 85/04, s. 7.
- 26.7 (1) A permanent anchor system shall be used as the fixed support in a fall arrest system, fall restricting system or travel restraint system if the following conditions are met:
1. The anchor system has been installed according to the *Building Code*.
 2. It is safe and practical to use the anchor system as the fixed support. O. Reg. 145/00, s. 14.

Fall Protection Working at Safely Working at Heights

(2) If the conditions set out in subsection (1) are not met, a temporary fixed support shall be used that meets the following requirements:

1. Subject to paragraph 2, a support used in a fall arrest system shall be capable of supporting a static force of at least 8 kilonewtons without exceeding the allowable unit stress for each material used.
2. If a shock absorber is also used in the fall arrest system, the support shall be capable of supporting a static force of at least 6 kilonewtons without exceeding the allowable unit stress for each material used.
3. Subject to paragraph 4, a support used in a fall restricting system must be capable of supporting a static force of at least 6 kilonewtons without exceeding the allowable unit stress for each material used.
4. Paragraph 3 does not apply to a support that is used in accordance with the manufacturer's written instructions and is adequate to protect a worker.
5. A support used in a travel restraint system shall be capable of supporting a static force of at least 2 kilonewtons without exceeding the allowable unit stress for each material used. O. Reg. 145/00, s. 14.

(3) Despite the requirements listed in subsection (2), the support capacity of a temporary fixed support used in a fall protection system may be determined by dynamic testing in accordance with good engineering practice to ensure that the temporary fixed support has adequate capacity to arrest a worker's fall. O. Reg. 145/00, s. 14.

(4) A fixed support shall not have any sharp edges that could cut, chafe or abrade the connection between it and another component of the system. O. Reg. 145/00, s. 14.

(5) Subsections (1) to (4) do not apply to fall restricting systems designed for use in wood pole climbing. O. Reg. 85/04, s. 8.

26.8 (1) A safety net shall be designed, tested and installed in accordance with ANSI Standard 10.11-1989, Personnel and Debris Nets for Construction and Demolition Operations. O. Reg. 145/00, s. 14.

(2) The safety net shall be installed by a competent worker. O. Reg. 145/00, s. 14.

(3) A professional engineer or a competent person under the engineer's supervision shall inspect and test the installation of the safety net before it is put in service. O. Reg. 145/00, s. 14.

(4) The engineer shall document the inspection and testing of the safety net. O. Reg. 145/00, s. 14; O. Reg. 85/04, s. 9.

Fall Protection Working at Safely Working at Heights

(5) A copy of the document shall be kept at the project while the safety net is in service. O. Reg. 145/00, s. 14.

26.9 (1) This section applies to a lanyard or lifeline that is part of a travel restraint system or a fall arrest system. O. Reg. 145/00, s. 14.

(2) The following requirements apply to a lanyard or a lifeline:

1. It shall not be used in such a way that it is likely to be cut, chafed or abraded.
2. It shall not be subjected to extreme temperature, flame, abrasive or corrosive materials or other hazards that may damage it.
3. The free end of the lanyard or lifeline shall be kept clear of equipment and machinery. O. Reg. 145/00, s. 14.

(3) Only one person at a time may use a lanyard. O. Reg. 145/00, s. 14.

(4) The connecting ends of a lanyard shall be wrapped around a protective thimble and securely fastened with a swaged fitting or eye splice supplied by the manufacturer of the lanyard. O. Reg. 145/00, s. 14.

(5) A horizontal or vertical lifeline shall be kept free from splices or knots, except knots used to connect it to a fixed support. O. Reg. 145/00, s. 14.

(6) Only one person at a time may use a vertical lifeline. O. Reg. 145/00, s. 14.

(7) A vertical lifeline shall,

- (a) extend to the ground; or
- (b) have a positive stop that prevents the rope grab or other similar device from running off the end of the lifeline. O. Reg. 145/00, s. 14.

(8) The following requirements apply to a horizontal lifeline system:

1. It shall be designed by a professional engineer in accordance with good engineering practice.
2. The design may be a standard design or a custom design.
3. The design shall,
 - i. show the arrangement of the system including the anchorage or fixed support system,
 - ii. indicate the components used,
 - iii. state the number of workers that can safely be attached to it,
 - iv. set out instructions for installation or erection, and
 - v. show the design loads for the system.

Fall Protection Working at Safely Working at Heights

4. The system shall be installed or erected, and maintained, in accordance with the professional engineer's design.
5. Before each use, the system shall be inspected by a professional engineer or a competent worker designated by a supervisor.
6. The constructor shall keep the design at the project while the system is in use. O. Reg. 145/00, s. 14.

26.10 , 26.11 Revoked: O. Reg. 85/04, s. 10.

27. (1) Despite subsections 26.1 (1) and (2), if the following conditions are met, a worker shall wear a lifejacket or other personal flotation device that is adequate:

1. The worker is exposed to a risk of drowning on a project.
2. It is not reasonably possible to install a guardrail system as subsection 26.1 (1) requires.
3. It is not reasonably possible to protect the worker adequately by means of a fall protection method as subsection 26.1 (2) requires. O. Reg. 443/09, s. 3 (1).

(2) If a worker may drown at a project,

- (a) at least two workers trained to perform rescue operations shall be available to perform rescue operations;
- (b) rescue equipment shall be provided in a suitable location on or near the project; and
- (c) all workers on the project shall be advised of the rescue procedures to be followed and their role, if any, in carrying out a rescue. O. Reg. 213/91, s. 27 (2).

(3) The rescue equipment shall include,

- (a) a seaworthy boat equipped with a lifebuoy attached to a buoyant heaving line not less than 15 metres in length and a boat hook; and
- (b) Revoked: O. Reg. 443/09, s. 3 (2).
- (c) an alarm system capable of warning a worker of the necessity of carrying out a rescue operation. O. Reg. 213/91, s. 27 (3); O. Reg. 443/09, s. 3 (2).

(4) The boat shall be power-driven if the water is likely to be rough or swift. O. Reg. 213/91, s. 27 (4).

(5) The alarm system shall be activated when a rescue operation is necessary. O. Reg. 213/91, s. 27 (5).

(6) Revoked: O. Reg. 443/09, s. 3 (3).

Fall Protection Working at Safely Working at Heights

Fall Protection Systems – General Guidelines

General

- Companies must distinguish between what system is needed for their application: either a fall arrest system or a travel restraint system. One typically uses a body harness, the other can use a safety belt. Never mix components from the two different systems.
- Proper training for workers is essential for any system in place.
- Ensure that the program includes individual fit testing of equipment.
- Workers who use a fall arrest or travel restraint system must perform a pre-use inspection of the system about to be used.
- Workers using fall arrest systems should not work alone.
- Daily pre-use inspections should be done by the worker and semi-annual inspections performed by a competent person in these type of systems.
- Information for every piece of equipment in a fall protection program should be documented: type of use, nature of environment, etc. All pieces of equipment, no matter how small, are vital to the overall performance of the system.
- Inspections should be done routinely to ensure integrity of the fall protection system. Dates should be recorded.
- A rescue plan needs to be in place in case of an emergency.
- Free fall distance must always be kept to a minimum.
- Re-evaluate your fall protection program on an ongoing basis.
- Store equipment in a clean, dry place away from direct sunlight.

Fall Protection Quiz

Name: _____ Date: _____

Company: _____

Fall Protection Quiz

1. It is only a five minute job, it's going to take me longer to put my equipment on, so I am not going to bother to put my equipment on.

Describe why this statement is no longer acceptable?

2. What is the best method of fall protection?

- a.) The use of guard rails.
- b.) Cover the hole
- c.) Travel Restraint Systems
- d.) Fall Arrest Systems

3. The employer shall provide and the employee shall continually use a fall-protection system when an employee works from:

3 m or more above a permanent safe level and from which a person may fall if the work area tips or fails.

True or False

4. When inspecting my equipment I need to inspect the snap hook;

Describe Why:

5. Following a written code of practice is important to ensure that best practices are followed to ensure that I am protected from fall hazards, the code of practices further;
 - a.) Establishes company rules,
 - b.) Establishes industry best practices
 - c.) Ensures that rules and procedures are written for my protection
 - d.) Both a and c
 - e.) All of the above
6. A Fall Arrest Anchor must be able to support
 - a.) The weight of the worker
 - b.) Twice the weight of the worker
 - c.) The weight of a small car
7. A Travel Restraint Anchor must be able to support
 - a.) The weight of the worker
 - b.) Twice the weight of the worker
 - c.) The weight of a small car
8. What should you do if you do not know how to protect yourself or others from a hazard?
 - a.) Speak to my Supervisor and get specific instruction from them
 - b.) Avoid talking to anyone, as I am going to rock the boat and get into trouble
 - c.) Just think about it, I will come up with something.
9. What is the minimum tie off distance for the fall arrest system?
_____feet.
10. A Travel Restraint System can include a full body harness, a lanyard without a limiting device and an anchor point capable of supporting my weight.
True or False

Bonus Question:

What motivates you to use Fall Protection Equipment?

Describe:

Answers for Review

1. The Law requires you to wear and use Fall Protection Equipment.
2. C Key word in the question is Fall Protection.
3. True
4. The snap hook is used so often and can become loose, leaving a gap which could be enough for what we call a roll out. You want to inspect the snap hook often pressing down on the keeper to make sure it is seated properly with no gaps and no movement.
5. E All of the Above
6. C The weight of a small car
7. A The weight of the worker
8. A Speak to your Supervisor and get specific instructions from them.
9. 18.5 feet
10. True

Bonus Question

What motivates you to use Fall Protection.

You want to come home at the end of the day to your families.

Fall Protection Practical Evaluation

Fall Protection Practical Evaluation

Inspection and Maintenance

Harness (and Body Belt) Inspection To inspect your harness or body belt, perform the following procedures.



1) Webbing

Grasp the webbing with your hands 6 inches (152mm) to 8 inches (203mm) apart. Bend the webbing in an inverted "U" as shown. The surface tension resulting makes damaged fibers or cuts easier to detect. Follow this procedure the entire length of the webbing, inspecting both sides of each strap. Look for frayed edges, broken fibers, pulled stitches, cuts, burns and chemical damage.



2) D-Rings/Back Pads

Check D-rings for distortion, cracks, breaks, and rough or sharp edges. The D-ring should pivot freely. Inspect for any unusual wear, frayed or cut fibers, or broken stitching of the D-ring attachments. Pads should also be inspected for cracks, excessive wear, or other signs of damage.



3) Buckles

Inspect for any unusual wear, frayed or cut fibers, or broken stitching of the buckle attachments.



4) Tongue Buckles/Grommets

Buckle tongues should be free of distortion in shape and motion. They should overlap the buckle frame and move freely back and forth in their socket. Roller should turn freely on frame. Check for distortion or sharp edges. Inspect for loose, distorted or broken grommets. Webbing should not have additional punched holes.



5) Friction and Mating Buckles

Inspect the buckle for distortion. The outer bars and center bars must be straight. Pay special attention to corners and attachment points at the center bar.



6) Quick-Connect Buckles

Inspect the buckle for distortion. The outer bars and center bars must be straight. Make sure dual-tab release mechanism is free of debris and engages properly.



7) Harness Fall Arrest Indicators

Inspect fall arrest indicators (located on the back D-ring pad) for signs of activation. Remove from service if broken or stretched between any of the four (4) pairs of arrows.

Fall Protection Practical Evaluation

Lanyard Inspection

When inspecting lanyards, begin at one end and work to the opposite end, slowly rotating the lanyard so that the entire circumference is checked. Additionally, follow the procedures below.



1) Hardware

A) Snaps: Inspect closely for hook and eye distortions, cracks, corrosion, or pitted surfaces. The keeper (latch) should seat into the nose without binding and should not be distorted or obstructed. The keeper spring should exert sufficient force to firmly close the keeper. Keeper locks must prevent the keeper from opening when the keeper closes.



B) Thimbles: The thimble must be firmly seated in the eye of the splice, and the splice should have no loose or cut strands. The edges of the thimble must be free of sharp edges, distortion, or cracks.



2) Wire Rope Lanyard

Always wear gloves when inspecting a wire rope lanyard; broken strands can cause injury. While rotating the wire rope lanyard, watch for cuts, frayed areas or unusual wearing patterns on the wire. Broken strands will separate from the body of the lanyard.



3) Web Lanyard

While bending webbing over a pipe or mandrel, observe each side of the webbed lanyard. This will reveal any cuts, snags or breaks. Swelling, discoloration, cracks and charring are obvious signs of chemical or heat damage. Observe closely for any breaks in stitching. Inspect lanyard warning flag for signs of activation. Titan tubular lanyards must be measured to determine activation.



4) Rope Lanyard

Rotate the rope lanyard while inspecting from end-to-end for any fuzzy, worn, broken or cut fibers. Weakened areas from extreme loads will appear as a noticeable change in original diameter. The rope diameter should be uniform throughout, following a short break-in period.



5) Shock Absorber Pack

The outer portion of the pack should be examined for burn holes and tears. Stitching on areas where the pack is sewn to D-rings, belts or lanyards should be examined for loose strands, rips, deterioration or other signs of activation.



6) Shock-Absorbing Lanyard

Shock-absorbing lanyards should be examined as a web lanyard (described in item 3 above). However, also look for the warning flag or signs of deployment. If the flag has been activated, remove this shock-absorbing lanyard from service.

Fall Protection Practical Evaluation

Self-Retracting Lifeline Inspection



1) Check Housing

Before every use, inspect the unit's housing for loose fasteners and bent, cracked, distorted, worn, malfunctioning or damaged parts.



2) Lifeline

Test the lifeline retraction and tension by pulling out several feet of the lifeline and allow it to retract back into the unit. Always maintain a light tension on the lifeline as it retracts.

The lifeline should pull out freely and retract all the way back into the unit. Do not use the unit if the lifeline does not retract. The lifeline must be checked regularly for signs of damage. Inspect for cuts, burns, corrosion, kinks, frays or worn areas. Inspect any sewing (web lifelines) for loose, broken or damaged stitching.



3) Braking Mechanism

The braking mechanism can be tested by grasping the lifeline above the load indicator and applying a sharp steady pull downward which will engage the brakes. There should be no slippage of the lifeline while the brakes are engaged. Once tension is released, the brakes will disengage and the unit will return to the retractable mode. Do not use the unit if the brakes do not engage.

Check the hardware as directed in 1A under Lanyard Inspection. The snap hook load indicator is located in the swivel of the snap hook. The swivel eye will elongate and expose a red area when subjected to fall arresting forces. Do not use the unit if the load impact indicator has been activated.



4) Snap Hook

Check the snap hook to be sure that it operates freely, locks, and the swivel operates smoothly. Inspect the snap hook for any signs of damage to the keepers and any bent, cracked, or distorted components.



5) Anchorage Connection

Make sure the carabiner is properly seated and in the locked position between the attachment swivel/point on the device and the anchor point.

Fall Protection Practical Evaluation

Cleaning

Basic care of all safety equipment will prolong the durable life of the unit and will contribute toward the performance of its vital safety function. Proper storage and maintenance after use are as important as cleansing the equipment of dirt, corrosives or contaminants. Storage areas should be clean, dry and free of exposure to fumes or corrosive elements.

- 1) Nylon or Polyester Remove all surface dirt with a sponge dampened in plain water. Squeeze the sponge 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; then wipe with a clean cloth. Hang freely to dry, but away from excessive heat.
- 2) Housing Periodically clean the unit using a damp cloth and mild detergent. Towel dry.
- 3) Drying Equipment should dry thoroughly without close exposure to heat, steam or long periods of sunlight

Safety Fall Protection Equipment Inspection Sheet

Make of equipment: _____ Date of inspection: _____

Employee(s) performing the inspection: _____

Instructions: Mark OK if inspected items meet the inspection criteria. If there are any of these items that are not satisfactory, the equipment must be removed from service.

Harness Inspection

_____ Webbing: Grasp the webbing with your hands 6 inches to 8 inches apart. Bend the webbing in an inverted "U". The surface tension resulting makes damaged fibers or cuts easier to detect. Follow this procedure for the entire length of the webbing, inspecting both sides of each strap. Look for frayed edges, broken fibers, pulled stitches, cuts, burns, and chemical damage.

_____ D-Rings: Check D-rings for distortion, cracks, breaks, and rough or sharp edges. The D-ring should pivot freely.

_____ Attachment of Buckles: Inspect for any unusual wear, frayed or cut fibers, or broken stitching of the buckle or D-ring attachments.

_____ Tongue/Grommets: The tongue receives heavy wear from repeated buckling and unbuckling. Inspect for loose, distorted or broken grommets. Webbing should not have additional holes punched.

_____ Tongue Buckles: Buckle tongues should be free of distortion in shape and motion. They should overlap the buckle frame and move freely back and forth in their socket. Roller should turn freely on the frame. Check for distortion or sharp edges.

_____ Friction and Mating Buckles: Inspect the buckle for distortion. The outer bars and center bars must be straight. Pay special attention to corners and attachment point at the center bar.

Lanyard Inspection

When inspecting lanyards, begin at one end and work to the opposite end, slowly rotating the lanyard so that the entire circumference is checked.

_____ Hardware

- a. Snaps: Inspect closely for hook and eye distortions, cracks, corrosion, or pitted surfaces. The keeper (latch) should seat into the nose without binding and should not be distorted or obstructed. The Keeper spring should exert sufficient force to firmly close the keeper. Keeper locks must prevent the keeper from opening when the keeper closes.
- b. Thimbles: The thimble must be firmly seated in the eye of the splice, and the splice should have no loose or cut strands. The edges of the thimble must be free of sharp edges, distortion, or cracks.

_____ Steel Lanyard: While rotating the steel lanyard, watch for cuts, frayed areas, or unusual wearing patterns on the wire. Broken strands will separate from the body of the lanyard.

_____ Web Lanyard: While bending webbing over a pipe, observe each side of the webbed lanyard. This will reveal any cuts or breaks. Swelling, discoloration, cracks and charring are obvious signs of chemical or heat damage. Observe closely for any breaks in stitching.

_____ Rope Lanyard: Rotation of the rope lanyard while inspecting from end-to-end for any fuzzy, worn, broken or cut fibers. Weakened areas from extreme loads will appear as a noticeable change in original diameter. The rope diameter should be uniform throughout, following a short break-in period.

_____ Shock Absorber Pack: The outer portion of the pack should be examined for burn holes and tears. Stitching on areas where the pack is sewn to D-rings. Belts or lanyards should be examined for loose strands, rips, and deterioration.

_____ Shock-Absorbing Lanyard: Shock-absorbing lanyards should be examined as a web lanyard (described in Item 3 above). However, also look for the warning flag or signs of deployment. If the flag has been activated, remove this shock-absorbing lanyard from service.

Employee's Signature: _____ Date: _____

Practical Evaluation- Donning of Equipment

Participant Name: _____ Date: _____

Competent Person: _____

Practical Evaluation is completed by each worker. Competent person will evaluate each worker donning fall protection equipment and will complete the following evaluation.

Competent person will also ensure that all workers involved in the fall protection program understand the following:

1. Section of correct lanyard either:
 - a.) travel restraint system - No limiting device
 - b.) fall arrest system - Must be applied at 18.5 feet to prevent bottoming out .
2. Rope Grab Systems - Inspect all components are functioning with directional arrow facing up, to slide up the rope and grab coming down.
3. Safety Nets
4. Safe Use of Ladders
5. Any other equipment used in your fall protection system.

☐

Step 1

Hold harness by back D-ring. Shake harness to allow all straps to fall in place.

☐

Step 2

If chest, leg and/or waist straps are buckled, release straps and unbuckle at this time.



Practical Evaluation- Donning of Equipment

☐ Step 3

Slip straps over shoulders so D-ring is located in middle of back between shoulder blades.



☐ Step 4

Pull leg strap between legs and connect to opposite end. Repeat with second leg strap. If belted harness, connect waist strap after leg straps. Use 2 fingers, to verify snugness of the leg straps. You do not want the leg straps too loose or too tight.



☐ Step 5

Connect chest strap and position in mid-chest area. Tighten to keep shoulder straps taut.



☐ Step 6

After all straps have been buckled, tighten all buckles so that harness fits snug but allows full range of movement. Pass excess strap through loop keepers.



Please complete the training feedback form.

Thank-You

Training Course Feedback Form

Course: _____ Course Date: _____

Instructor: _____ Company: _____

Rating: 1 = Very Poor 5 = Very Good

Administration

Category	Rating				
Course was scheduled at a good time	1	2	3	4	5
Course started on time	1	2	3	4	5
Course finished on time	1	2	3	4	5
Trainer took periodic breaks	1	2	3	4	5

Course Content

Category	Rating				
Course workbook was easy to understand	1	2	3	4	5
Course workbook was informative	1	2	3	4	5
Presentation was easy to understand	1	2	3	4	5
Presentation was informative	1	2	3	4	5

Instructor

Category	Rating				
Instructor presented material in ways that were easy to understand	1	2	3	4	5
Instructor answered questions clearly	1	2	3	4	5
Instructor encouraged active participation	1	2	3	4	5

Technology

Category	Rating				
I could clearly hear what the instructor was saying	1	2	3	4	5
I could clearly see what the instructor was doing	1	2	3	4	5
The technology was beneficial to the learning process, not a hindrance	1	2	3	4	5

**** Over All, This was a positive experience: 1 2 3 4 5**

Comments: _____
