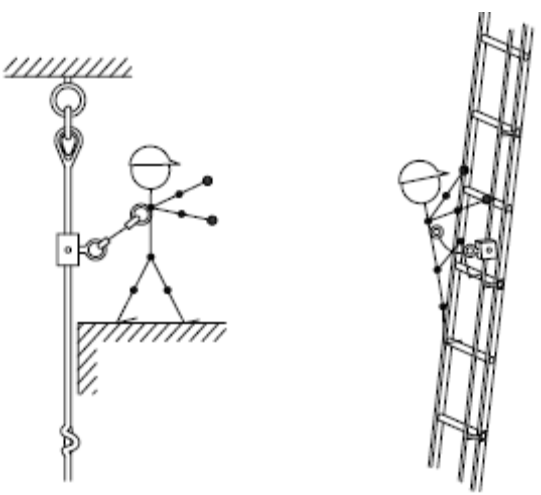


Fall Arrest Systems (Fall Arrest Devices)

Document no. SMS-06-SW-0255	Work description Selection and use of fall arrest devices		
	Scope Applies to use of fall arrest devices, including ladder fall arrest devices, flexible life lines and inertia reels		
Review date	References <ul style="list-style-type: none"> AS/NZS 1891.1 - Industrial fall arrest systems and devices, safety belts and harnesses AS/NZS 1891.4 - Industrial fall arrest systems and devices, selection, use and maintenance SMS-06-GD-0240 Working at Heights SMS-06-GD-0241 Fall Arrest Systems SMS-06-SW-0256 Fall Arrest Systems (Harnesses, Lanyard and Attachment Hardware) SMS-06-SW-0264 Portable Ladders, Step Ladders and Step Platforms 		
Responsible supervisor <i>Insert name in BLOCK letters</i>	PPE and precautions	Competencies or qualifications	Licences or permits required
	<ul style="list-style-type: none"> Full body fall arrest harness High vis vest where required Helmet with chin strap, where helmet is required Non-slip footwear 	See below	N/A
Tools and equipment required			
See below			
IF CONTROL MEASURES ARE NOT SUITABLE AND MAJOR CHANGES ARE NEEDED, CONDUCT A RISK ASSESSMENT AND DEVELOP NEW CONTROLS ACCORDING TO SMS-06-PR-0104 WORKPLACE RISK MANAGEMENT .			

Type 1 device (includes rope and rail grabs)	<p>Type 1 devices are attached to a fixed vertical or substantially vertical rail or a fixed vertical flexible line and can move up and down the rail or line at a predetermined maximum rate to follow the movement of the wearer.</p> <p>The wearer is connected by a short lanyard to the activating lever which locks the device in the event of a fall. Type 1 devices are typically used as a ladder fall arrest system, using a rigid rail or a flexible line attached to the ladder.</p> <p>For Type 1 devices:</p> <ul style="list-style-type: none"> if the device is part of a ladder fall arrest system, the manufacturer or installer must verify that the anchorages are adequate. The manufacturer's recommendations are to be rigidly adhered to so that the design stresses on the system are not exceeded if the device is used on a slope, the manufacturer's advice is to be sought if the speed at which the wearer can slide down the slope is insufficient to activate the arrest mechanism. <p>General requirements of Type 1 devices:</p> <ul style="list-style-type: none"> a flexible anchorage line used with a Type 1 device is to be fitted with a suitable end stop before use. Tying a knot in the end is acceptable where a Type 1 device is assembled onto an anchorage line in a particular orientation, the device is to be assembled on the line according to instructions or other indications on the device. 	 <p>Figure 1 Examples of a Type 1 device</p>
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Fall Arrest Systems (Fall Arrest Devices)

Type 2 device
(also known as a fall arrester, inertia reel, self-retracting lifeline)

Type 2 devices are generally attached to an anchorage point, and pay out a line which is attached to the wearer's fall arrest harness.

The line is controlled by a spring-loaded reel which adjusts the line length as the wearer moves up and down in the course of the work.

Under fall arrest conditions the reel locks by means of the inertia-reel or similar mechanical principle.

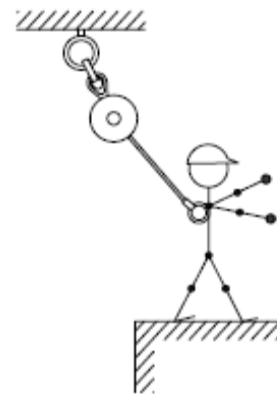


Figure 2 Example of a Type 2 device

Type 3 devices

Type 3 devices are similar to Type 2 devices with the addition of a winch mechanism so the wearer can be retrieved after a fall or if in distress.

General requirements - Type 2 & 3 devices

General requirements of Type 2 & 3 devices:

- the device is to be anchored to a point above the user. The anchor point is **not** to be offset by more than 30° from the vertical, or an angle recommended by the manufacturer (see Figure 3)
- in normal use, the device is **not** to be used on a slope where a fall could cause the wearer to slide at a speed that is insufficient to activate the arrest mechanism. Seek the manufacturer's advice for use on a slope less than about 60° from the horizontal
- if the manufacturer states that the device can be used in a substantially horizontal mode, the user needs to verify that the line will not fail at an edge, and that the device will operate satisfactorily if a fall takes place over an edge. Type 2 & 3 device anchorage lines are **not** to be left extended when not in use. This can expose the line to dirt and corrosion, and will stress the retractor spring
- Type 2 & 3 devices are **not** to be used lying on their side as the line may not feed back onto the reel evenly and will affect the operation of the retractor mechanism

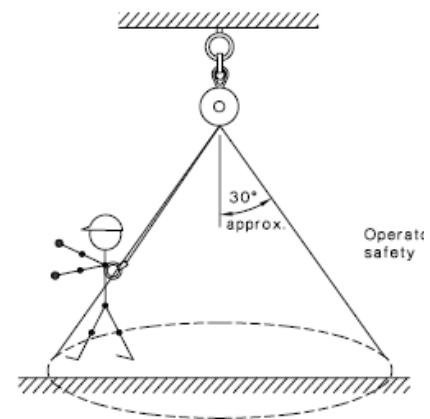


Figure 3 Inertia reel usage requirements

Unless written permission is provided by the manufacturer Type 2 & 3 devices are **not** to be used laterally to the anchorage (see Figures 4 and 5).

All devices

General requirements of all devices:

- in normal use, Types 1, 2 and 3 devices are designed to not allow a free fall greater than 600mm; seek the manufacturer's advice about the device's capabilities if it is to be used in a configuration that could lead to a longer free fall
- if the user has to turn around frequently, devices using webbing lines are to be equipped with swivels; they may be needed at both the anchorage end and user end
- a fall arrest device is **not** to be used as a work positioning device, i.e. by locking it off to support an operator in a position or location where there is risk of a free fall
- a fall arrest device, anchorage point or anchorage line is **not** to be used to secure more than one person unless designed to do so
- strictly observe manufacturer's instructions for device use and any limitations on its use.

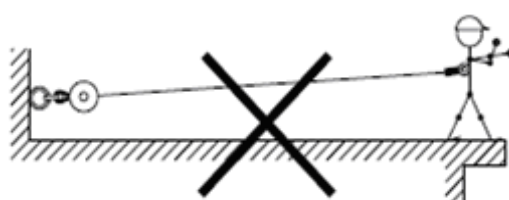


Figure 4 Position prior to fall

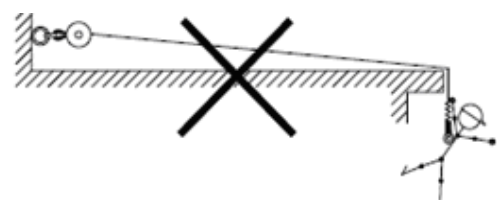


Figure 5 Position after fall

Safe Work Instruction	Issue date: 11/08/09
Fall Arrest Systems (Fall Arrest Devices)	Review date: 27/07/12

Training	<p>Before working at heights, RailCorp Employees and Contractors are to be properly trained in:</p> <ul style="list-style-type: none"> • the method of working at heights to be used • an understanding of the particular task requirements and any hazards and risks involved • correct selection, fitting, use, care and storage of: <ul style="list-style-type: none"> - fall prevention systems and arrest equipment - personal protective equipment - tools and equipment to be used • procedures in the event of an emergency such as rescue, accident or injury. <p>Users of fall arrest systems and equipment are to be trained and assessed as competent before being allowed to work without direct supervision in accordance with training requirements defined in the Working at Heights guide.</p> <p>Line Managers are to make sure that employees are properly trained and possess the above competency.</p>
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Additional controls