



# BEYOND the STANDARD

AS/NZS 1891.1:2007

## FREQUENTLY ASKED QUESTIONS

### The purpose of this document

This document provides a basic understanding of AS/NZS 1891 Part 1 2007 and Part 4 2008 and the key changes that have been incorporated into the Standard. It is intended to provide only the highlights of the new Standard. It is not an exhaustive, all inclusive account of every change in the standard.

A great deal of care was given to the accuracy of the information contained in this document, however, the final source used as a reference should be the actual Standards themselves. These can be purchased from SAI Global via [www.sai-global.com](http://www.sai-global.com).

### Who is Standards Australia?

The Standards Australia coordinates the development and use of *Standards* in Australia and in cooperation with New Zealand Standards.

An AS/NZS Standard implies a consensus of those substantially concerned with its scope and provisions, and is intended as a guide to aid the manufacturer, the consumer, and the general public.

*It is important to remember that the AS/NZS Standards are not the law, but they can be expected to be used as reference in the event of a legal dispute.*

AS/NZS Standards are subject to periodic review and users are cautioned to always reference the latest editions.

### What is AS/NZS 1891?

AS/NZS 1891 is the National Standard for Australia and New Zealand for "Industrial fall-arrest systems and devices".

The Standard is currently divided into 4 parts:

*1891.1 Part 1: Harnesses and ancillary equipment*

*1891.2 Part 2: Horizontal lifeline and rail systems*

*1891.2 Supplement 1: Horizontal lifeline and rail systems—Prescribed configurations for horizontal lifelines*

*1891.3 Part 3: Fall-arrest devices*

*1891.4 Part 4: Selection, use and maintenance (currently under review)*

The purpose of this Standard is to address the variety of equipment being developed in the rapidly growing field of Fall Protection. The changes that this document addresses are in Part 1 (the how to manufacture and test equipment Standard) and from this there has been a flow on effect requiring changes to Part 4, (how to use the equipment).

### Why the changes to AS/NZS 1891?

Standards are under constant revision to make sure that the products used in this country provide the highest possible level of personal safety. In this case the review allows for improved testing of double lanyards and the addition of a fall arrest attachment point on the front of the harnesses, to facilitate rescue and self-rescue.



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## What are the current changes to AS/NZS1891 Part 1 of the Standard?

### Belts

- The use of belts in for any Fall Protection purpose has been removed from the standard. This will affect Miners and Restraint Belts.
- Linesman's belts have been defined as "lower body harnesses", thus will have to be replaced with new models that include leg straps & a Frontal Fall Attachment Point.

- In practice, all of the line workers in Australian and New Zealand use full body harnesses that are designed to be used for comfortable work positioning with a Pole Strap.
- Lower body harnesses may be used for "limited free fall" up to 600mm.

### Sit Harnesses

- These are defined as being a sub division of Lower Body Harnesses.
- May be removed from later editions of the standard, with AS/NZS 1891.4 will be updated to reflect this change.

### Harnesses

- All harnesses must have a frontal fall arrest connection point.
- There is no testing program for 'Restraint' connections.
- Side dees must only be designated 'Work Positioning'.
- The markings and instructions requirements have been changed.

### Lanyards

- New testing procedure for double lanyards has been included. These tests are based around the lanyard surviving misuse in the field.
- The markings and instructions requirements have been changed.

### Definitions

- The concept of "restraint, only equipment and usage" has been removed from the standard.
- When workers want to work in restraint, they will need to use "fall arrest" equipment such as an energy absorbing lanyard with the slack removed, so there is no risk of a fall.
- The planned revisions to Part 4 also include updating the sections covering 'Hardware compatibility', 'Suspension trauma' and 'Energy Absorber extension'.
- In Part 4 of the standard (the use and application section) the concept of there being two levels of Restraint is introduced.
  - "Restraint", for situations where the worker is using a non adjustable lanyard.
  - "Restraint Technique", for situations where the worker is using a lanyard or other connection device capable of adjustment.

### Hardware

- Increase in the strength requirements of hook latches.
- Front strength of 1kN with no more than a 3mm deflection.
- Side load of 1.5kN with no more than a 3mm deflection.
- These tests must not result in the loss of hook action.

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## What are the key significant changes within each of Part of the AS/NZS 1891?

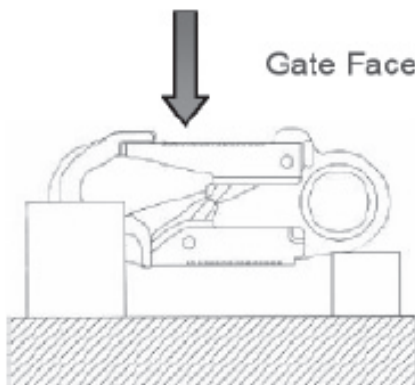
### AS/NZS 1891.1 Part 1: Harnesses and ancillary equipment

- A. Removal of 'Restraint' designation for any connection point on a harness.
- B. The statement that 'For all total restraint applications users are advised to use equipment specified in this Standard for fall-arrest'.
- C. Addition of Frontal fall arrest on all harnesses.
- D. Change to labeling and instructions requirements.
- E. Use of belts alone (ie not fixed into harnesses) is not allowed for any Fall Protection application.
- F. That 'Linesmen's Belts' are now designated 'Lower Body Harnesses' and as such will require leg straps.
- G. The addition of load testing on gates of connection hardware, the gate must remain operational after the application of the following forces.
  - H. Force applied to the 'face' of the gate 1.0 kN.
  - I. Other than the marking and instructions change, there is also a need for double (also known as 'access') lanyards to pass a very tough range of tests. These tests are designed to simulate misuse of the products, and to assure that the lanyard will survive this misuse.

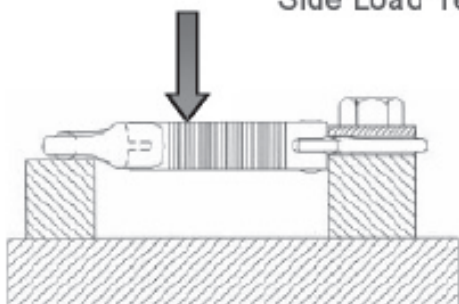
Tensile Test



Gate Face Test



Side Load Test





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AS/NZS1891.4 Part 4: Selection, use and maintenance (at the time of writing, this standard is in the late stages of review)

## Training

There is going to be a need for training for all involved in the Fall Protection process. This will cover:

- ✦ Work Place Designers and Planners
- ✦ Managers
- ✦ Equipment Specifiers

### **First Level of Training**

Training to enable a person to work at heights

### **Second Level of Training**

As above but with the ability to rescue

### **Anchorage Strengths**

The recommendations for Anchorage point strengths, reflects the removal of the concept of restraint.

Purpose of Anchorage	Ultimate Failure Load
Free Fall Arrest – one person	15 kN
Free Fall Arrest – two people	21 kN
Limited Free Fall	12 kN



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## Energy Absorber Extension

As part of the Energy Absorption process lanyards extend as they decelerate and ultimately arrest a person in the event of a fall.

Previous versions of Part 4 instructed readers of the Standard to allow for an extension of 1.75m. This figure is roughly twice to what can realistically be expected, the addition of this factor to the further safety factors involved in the calculation lead to people not using lanyards where they would be perfectly safe.

Part 4 will include a chart that will provide realistic extension dimensions dependant on the distance the person will fall.

Fall Distance	Shock Absorber Extension
0.6 m	300 mm
1.0 m	500 mm
1.5 m	600 mm
2.0 m	900 mm

### Definition of 'Restraint' methods:

*"Total Restraint":*

applications where there is no ability to adjust the lanyard.

*"Restraint Technique":*

applications where the worker has to adjust his equipment to assure he does not get into free fall.

*In either of the above situations the equipment to be used has to be 'Fall Arrest' rated.*

### Back Hooking

There is a significant change in this part of the standard, it removing an ambiguity, clearly allowing the back hooking of lanyards if they are equipped with hooks or other terminals designed for that purpose.

### Servicing requirements:

Inertia Reel Fall Arrest Block servicing

The changes to this section of standard, clarify that the servicing requirements for Fall Protection mechanical equipment is to be to the manufacturer's recommendations.



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## REFERENCES

AS/NZS

- 1891 Industrial fall-arrest systems and devices.
- 1891.1 Part 1: Harnesses and ancillary equipment .
- 1891.2 Part 2: Horizontal lifeline and rail systems.
- 1891.2 Supplement 1: Horizontal lifeline and rail systems - Prescribed configurations for horizontal lifelines.
- 1891.3 Part 3: Fall-arrest devices.
- 1891.4 Part 4: Selection, use and maintenance.

## Conclusion

Protecting workers at height requires a holistic approach that extends beyond standards and regulations. Meeting new or established standards for safety requirements and product performance provides a starting point for safety on the job site. The introduction of the new AS/NZS 1891 Part 1 2007 and AS/NZS 1891 Part 4 2008 Standards for fall protection attempts to provide a solution to minimize serious injuries often caused by misuse, poor product selection, inadequate training or possibly damaged/worn equipment.

## Miller T.I.P.S.™ for Total Compliance

Addresses the important considerations to assure a safe environment when working at heights. Globally, Miller Fall Protection is committed to providing value-added fall protection products and services to those specifying, selecting and using our equipment. While safety at heights is our ultimate goal, enhancing worker comfort, trust and increased productivity are also qualities that products bearing the Miller name have strived to maximize for over 60 years. The Miller® brand name is more than a line of quality products. The name represents greater value-added services and expertise that only the leader in fall protection can provide.

## TRAINING

*Professional Fall Protection Training* – Key to worker safety, on-site awareness, and proper selection & use of fall protection equipment.

## INSPECTION

*Equipment Inspection & Maintenance* – Failure is not an option – when in doubt, throw it out!

## PRODUCTS

*Proper Product Selection & Use* – All work environments differ; use the right equipment for the job!

## STANDARDS

*Addressing the AS/NZS 1891 Part 1 2007 and AS/NZS 1891 Part 4 2008 Standards* – Meeting voluntary industry standards indicates that products pass accepted testing procedures.

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