

**Body belts and saddles for work positioning and
travel restraint**



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Update No. 1

Z259.1-05

August 2008

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Title: *Body belts and saddles for work positioning and travel restraint* — originally published February 2005

The following revisions have been formally approved and are marked by the symbol delta (Δ) in the margin on the attached replacement pages:

| | |
|----------------|----------------|
| Revised | Clause 4.3.2.2 |
| New | None |
| Deleted | None |

CSA Z259.1-05 originally consisted of **25 pages** (x preliminary and 5 text), each dated **February 2005**. It now consists of the following pages:

| | |
|----------------------|-----------------------|
| February 2005 | iii–x, 1, 2, and 5–15 |
| August 2008 | 3 and 4 |

- Update your copy by inserting these revised pages.
- Keep the pages you remove for reference.

Worker — for the purposes of this Standard, any person who is protected from falling by a work positioning or a travel restraint system, or any person who might fall while attached to a fall arrest system.

Work positioning system (WPS) — an assembly of components that, when properly assembled and used together, supports a worker in a position or location so that the worker's hands are free in the work position. A WPS is not intended for use as an FAS.

Note: A lineman's body belt or harness, or both, in addition to a pole strap and spurs, constitute a work positioning system for climbing and working on a wood pole.

4 Design requirements

4.1 Connecting hardware

All connecting hardware shall meet the requirements of CAN/CSA-Z259.12.

4.2 Attachment points

Attachment points shall be designed in a manner such that a connector cannot be accidentally disconnected or disengaged during dynamic loading or during use.

4.3 Body belt design requirements

4.3.1 Body belt classifications

Body belts shall be classified as follows:

- (a) Type 1 — body belt for linemen; and
- (b) Type 2 — body belt for work positioning and travel restraint.

4.3.2 Body belt components

4.3.2.1 Body belt for linemen — Type 1

The belt shall include the following components:

- (a) a strap with buckle;
- (b) at least two D-rings that meet the requirements of CAN/CSA-Z259.12 Class I connectors;
- (c) a strap keeper; and
- (d) a body pad.

Δ 4.3.2.2 Body belt for work positioning and travel restraint — Type 2

The belt shall include the following components:

- (a) a strap with buckle;
- (b) at least one D-ring that meets the requirements of CAN/CSA-Z259.12 Class I connectors, or at least one load-bearing element for the connection of other components; and
- (c) a strap keeper.

4.3.3 Body belt width

The minimum width of body belt components shall be as shown in Table 1.

Table 1
Body belt and saddle component widths
 (See Clauses 4.3.3 and 4.4.3.)

| Component | Minimum width | |
|--|---------------|-----|
| | mm | in |
| Buckle strap | 45 | 1.8 |
| Body pad | 75 | 3.0 |
| D-ring supporting strap (lineman's belt only) | 45 | 1.8 |
| Load-bearing webbing | 41 | 1.6 |

4.3.4 Buckles

4.3.4.1 General

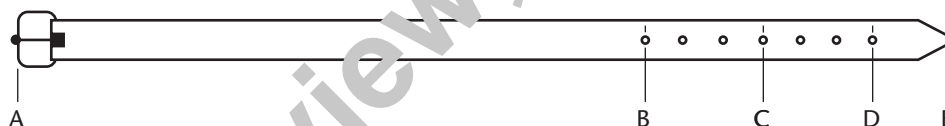
Buckles shall conform to the requirements of CAN/CSA-Z259.12 Class II connectors.

4.3.4.2 Tongue buckle style

Buckle holes shall be not less than 25 mm (1 in) and not more than 50 mm (2 in) apart. The number of buckle holes shall be such that the total adjustment range (distance BC in Figure 1) is not less than 200 mm (8 in) and not more than 250 mm (10 in).

The distance between the outermost buckle hole and the tip of the belt (distance DE in Figure 1) shall be not less than 102 mm (4 in) and not more than 128 mm (5 in).

Belt with odd number of buckle holes



Belt with even number of buckle holes

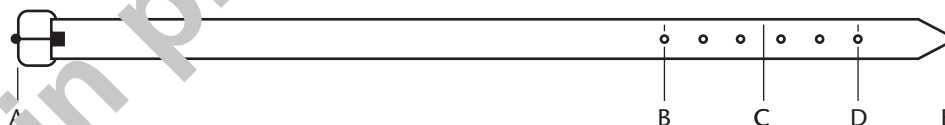


Figure 1
Reference points for belt dimensions
 (See Clauses 4.3.4.2 and 4.4.4.2 and Table A.1.)

4.3.4.3 Friction buckle style

A friction buckle shall be designed to be self-tightening as force is applied to pull the webbing out of it.

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Preface

This is the fourth edition of CSA Z259.1, *Body belts and saddles for work positioning and travel restraint*. It supersedes the previous edition, published in 1995 under the title *Safety Belts and Lanyards*. This Standard, along with the second edition of CSA Z259.11, *Energy absorbers and lanyards*, also supersedes CSA Z259.3-M1978, *Lineman's Body Belt and Lineman's Safety Strap*. CSA Z259.1 now covers body belts and saddles; CSA Z259.11 now covers lanyards, straps, and energy absorbers.

The purpose of this Standard is to specify requirements for the performance, design, testing, and marking of body belts and saddles for work positioning and travel restraint. The major differences from the previous edition are as follows:

- (a) The term "body belt" is used instead of "safety belt" to avoid creating expectations that these belts could be used to arrest falls.
- (b) Body belts are classified as Type 1 (lineman's belt, previously covered in CSA Z259.3) or Type 2 (belts covered in the previous edition of CSA Z259.1).
- (c) Arborists' saddles, not before covered in the CSA Z259 Standards, have been included.
- (d) CAN/CSA-Z259.12, *Connecting Components for Personal Fall Arrest Systems (PFAS)*, is referenced to provide requirements for hardware components such as buckles, D-rings, and snap hooks, resulting in some changes to test requirements.
- (e) The toluene immersion test of CSA Z259.3 is considered irrelevant to present-day manufacturing methods and has been deleted.
- (f) The requirements in CSA Z259.3 for packaging and for inclusion of instructions for storage and drying are considered irrelevant and have been deleted.

This Standard was prepared by the Technical Committee on Fall Protection, under the jurisdiction of the Strategic Steering Committee on Occupational Health and Safety, and has been formally approved by the Technical Committee. It will be submitted to the Standards Council of Canada for approval as a National Standard of Canada.

February 2005

Notes:

- (1) Use of the singular does not exclude the plural (and vice versa) when the sense allows.
- (2) Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.
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Z259.1-05

Body belts and saddles for work positioning and travel restraint

1 Scope

1.1

This Standard specifies requirements for the performance, design, testing, marking, and instructions of body belts and saddles. Body belts and saddles are used as part of work positioning and travel restraint systems.

1.2

This Standard covers equipment such as

- (a) lineman's body belts;
- (b) body belts;
- (c) miners' belts; and
- (d) arborists' saddles.

1.3

This Standard does not cover the following:

- (a) boatswains' chairs;
- (b) recreational equipment;
- (c) firefighting equipment; and
- (d) other mechanical-type devices.

1.4

Body belts and saddles are not intended for use as body support in the arrest of a worker's fall, due to the possibility of injury or death resulting from

- (a) impact on the body when the fall is arrested;
- (b) fallout from a body belt; or
- (c) effects of extended static suspension in a body belt.

When using a work positioning system, fall protection is provided by a fall arrest system that includes a full body harness that meets the requirements of CAN/CSA-Z259.10.

1.5

This Standard does not stipulate specific designs for body belts and saddles. However, this Standard does stipulate the design limitations whose consideration is necessary for safe and durable service of body belts and saddles.

1.6

In CSA Standards, "shall" is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; "should" is used to express a recommendation or that which is advised but not required; "may" is used to express an option or that which is permissible within the limits of the standard; and "can" is used to express possibility or capability. Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material. Notes to tables and figures are considered part of the table or figure and may be written as requirements. Annexes are designated normative (mandatory) or informative (non-mandatory) to define their application.