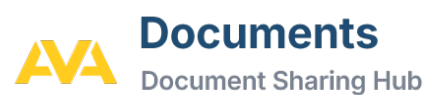


Australian/New Zealand Standard™

Prams and strollers—Safety requirements



AS/NZS 2088:2013

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee CS-020, Prams and Strollers. It was approved on behalf of the Council of Standards Australia on 19 February 2013 and on behalf of the Council of Standards New Zealand on 25 February 2013.

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Australian Competition and Consumer Commission
Australian Industry Group
Australian Retailers Association
Building and Housing Group, Ministry of Business, Innovation and Employment,
New Zealand
CHOICE
Consumer Affairs, VIC
Consumer Affairs, Ministry of Business, Innovation and Employment, New Zealand
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Australian/New Zealand Standard™

Prams and strollers—Safety requirements

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CS-020, Prams and Strollers, to supersede AS/NZS 2088:2009 of the same title.

In this revision of the Standard, definitions have been added, and certain requirements and test methods have been revised, such as:

- (a) Definitions of ‘securely attached’ and ‘permanently fixed’ have been introduced, and their application within the Standard adjusted accordingly.
- (b) The addition of a new test for the stability of toddler platforms.
- (c) A further revision of the harnessing requirements as identified in Item (a) above.
- (d) The inclusion of a requirement for locking devices that are located on the sides of the vehicle and accessible to the child while the child is properly restrained in the vehicle to remain fully engaged when force is applied to the handle.
- (e) Restructuring of the requirements concerning instructions and markings.
- (f) Editorial and minor changes to various clauses for clarity and improvement in structure.

For further product clarification, three-wheeled or ‘jogging’ strollers fall within the scope of this Standard.

In Australia, the Australian Competition and Consumer Commission (ACCC) currently administer a *Competition and Consumer Act 2010* mandatory safety standard for prams and strollers, which includes some requirements of this Standard.

This Standard differs from some of the requirements of the Australian TPA mandatory product safety standard. Further information about the TPA mandatory safety standard can be obtained from the ACCC website.

The term ‘normative’ has been used in this Standard to define the application of the Appendix to which it applies. A ‘normative’ Appendix is an integral part of a Standard.

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STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard
Prams and strollers—Safety requirements

1 SCOPE

This Standard specifies materials, construction, performance and labelling requirements and test methods for prams, strollers and their accessories.

2 OBJECTIVE

The objective of this Standard is to provide manufacturers, authorities and others with minimum safety requirements in order to reduce the likelihood of injury to children.

3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

1815 Metallic materials—Rockwell hardness test

1815.1 Part 1: Test method (scales A, B, C, D, E, F, G, H, K, N, T)

AS/NZS

2172 Cots for household use—Safety requirements

AS/NZS ISO

8124 Safety of toys

8124.1 Part 1: Safety aspects related to mechanical and physical properties

8124.3 Part 3: Migration of certain elements

ISO

4287 Geometrical Product Specifications (GPS)—Surface texture: Profile method—Terms, definitions and surface texture parameters

4 DEFINITIONS

For the purpose of this Standard, the definitions below apply.

4.1 Accessory

Any item that is not an integral part of the vehicle but is supplied as being suitable for use with the vehicle. This will include all items sold together with or separate from the vehicle and nominated in the vehicle instructions.

4.2 Automatic, automatically

Performs the function without additional user intervention.

4.3 Bassinet

An accessory with a body of box-like or boat-like shape designed to transport a fully reclined baby or child weighing up to and including 9 kg and attached onto the vehicle.

4.4 Child restraint

A device used to restrain a child passenger in a motor vehicle.

4.5 Folding

Collapsing or bending a portion of the vehicle through a hinge mechanism provided for the purpose.

4.6 Liner

A detachable and/or additional seat pad.

4.7 Securely attached

Attached in such a way that it cannot be removed casually or inadvertently but need not be permanently fixed.

4.8 Permanently fixed

Attached in such a way that it cannot be removed without the use of a tool or substantial amount of force, dexterity or skill.

4.9 Pram

A wheeled vehicle with a body of box-like or boat-like shape designed to transport a baby or child weighing up to and including 9 kg, primarily in a fully reclined position.

4.10 Single action release mechanism

A securing device which is released by the application of one force acting in one direction.

4.11 Shall

Indicates that a statement is mandatory.

4.12 Should

Indicates a recommendation.

4.13 Storage containers

A feature or accessory, such as a basket, tray or bag that is used to carry goods.

4.14 Stroller

A wheeled vehicle designed to transport a child usually in a seated position, and which may also be adjusted to a semi-reclined or a fully reclined position.

4.15 Structural failure

Observed breakage, or failure to remain operational.

4.16 Toddler platform

A device that is attached to a vehicle where a toddler can stand and stabilize themselves by holding the handle or other defined structure. The platform may be fitted with wheels. The platform may be an integral part of the stroller or may be a detachable accessory.

4.17 Toddler seat

An accessory that provides an additional seating position consisting of a separate seat that can be added to and removed from the vehicle.

4.18 Vehicle

A pram or stroller.

4.19 Wheel

Either a single wheel or a set of adjacent wheels attached to the same mounting point, unless otherwise stated.

5 DIMENSIONS

The minimum depth of the body of a pram at, or at any position within 300 mm from, the harness attachment points shall be 140 mm when measured from the top edge of the top surface of the mattress or the next horizontal plane (the seat if there is one). If there are no harness attachment points, use points which are halfway along the length of the pram body at each side of the pram. The minimum depth at any other point on the sides or ends of the body shall be 100 mm.

NOTE: A useful source of data for determining other dimensions for prams and strollers is: NHMRC *Percentile charts—Charts and tables of heights, masses and head circumferences of infants, children and adolescents*, Canberra: AGPS, 1981.

6 MATERIALS

6.1 Toxicity

All materials and all coatings that are capable of being sucked, licked, mouthed or swallowed while the child is properly restrained in the vehicle shall comply with the maximum acceptable levels of element migration when tested in accordance with AS/NZS ISO 8124.3.

6.2 Corrosion

All metal parts, including springs, nuts, bolts and washers, shall either be made of corrosion-resistant material or be protected against corrosion.

NOTE: Compliance is assessed by visual inspection.

7 ACCESSORIES

7.1 General

All combinations of vehicle and accessories shall comply with the requirements of this Standard.

7.2 Child restraints

For vehicles that can be fitted with child restraints as an accessory, the child restraint shall be secured to the vehicle such that the occupant would be positioned in a manner as specified by the manufacturer's instructions. The combination of the vehicle and the child restraint shall meet the requirements of Clauses 8.7.2, 9.8.1, and 9.13 and be subject to tests required by Clause 10 and Table 1.

NOTE: Both the Australian and New Zealand Governments have mandatory compliance requirements for child restraints used in cars.

7.3 Toys

Toys sold as an accessory of the vehicle and accessories embodying toys sold as part of the vehicle should comply with the relevant requirements of AS/NZS ISO 8124.1 and AS/NZS ISO 8124.3.

NOTE: Both the Australian and New Zealand Governments have mandatory compliance requirements for toys.

8 CONSTRUCTION

8.1 Objects which could come into contact with a child's head

A vehicle in any configuration shall not have any protruding objects that are not padded or otherwise protected and that could come into contact with a child's head and cause injury while the child is properly restrained in the vehicle.

NOTE: Examples of projections include—

- (a) a discontinuity of surfaces that creates a step with a height of more than 5 mm with an edge radius of 5 mm or less or a chamfer of 45° or less;
- (b) a protrusion with a height of more than 5 mm with a diameter or width of 10 mm or more and with an edge radius of 2 mm or less; and
- (c) a protrusion of more than 10 mm in height with an edge radius of 5 mm or less.

8.2 Open-ended tubes

Vehicles shall not contain any open-ended tubes in which a child's finger or fingers could be trapped while the child is properly restrained in the vehicle. All open ended tubes that are accessible to a child within a vehicle and allow the passage of a 5 mm diameter rod to a depth of 10 mm or more shall also allow the passage of a 12 mm diameter rod. Where a tube is not circular, the opening shall be tested at the centre of the largest dimension of the aperture.

8.3 Reversible handles

A reversible handle on a three-wheeled vehicle is not permitted.

If a vehicle has a reversible handle, either of the following shall apply:

- (a) Where a reversible handle is operated by a single release actuator, a clearance shall be provided between the handle parts and the armrest or side of the vehicle for a downwards distance of not less than 50 mm throughout the arc of movement of the handle as it passes the armrest or side of the vehicle (see Figure 1). It shall be possible for a rod with a diameter of 12 mm and a length of 50 mm to enter and to be pulled out through the clearance (see gap shown in Figure 1) with a force of not more than 20 N.
- (b) Where more than one release mechanism is provided, at least one of the release mechanisms shall be situated on a side arm of the handle, not more than 300 mm above the plane of the armrest or top of the side of the vehicle at forward or reverse locked handle position (see Figure 2).

NOTE: The requirements in Item (a) and (b) in this Clause are intended to reduce the likelihood of a child’s fingers being in the path of a reversing handle. Either the gap is sufficient to clear the fingers if a child’s hands are on the armrest or side of the vehicle, or at least one operating mechanism for the handle is situated so that the operator is forced to be within close proximity to the child while operating the handle, and thus may be likely to observe whether the child’s hands are in the path of the handle as it moves.

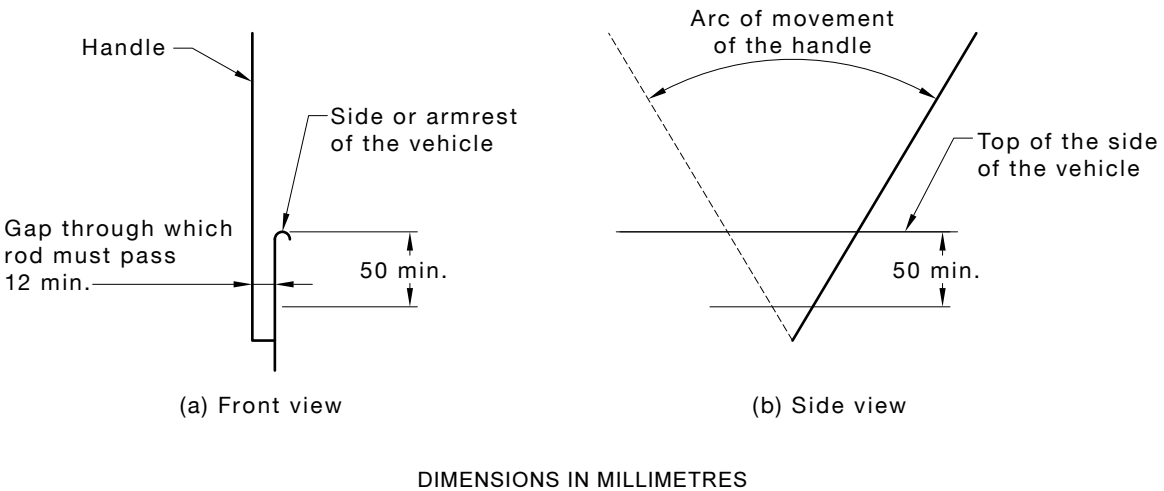


FIGURE 1 CLEARANCE FOR REVERSIBLE HANDLES OPERATED BY A SINGLE RELEASE MECHANISM

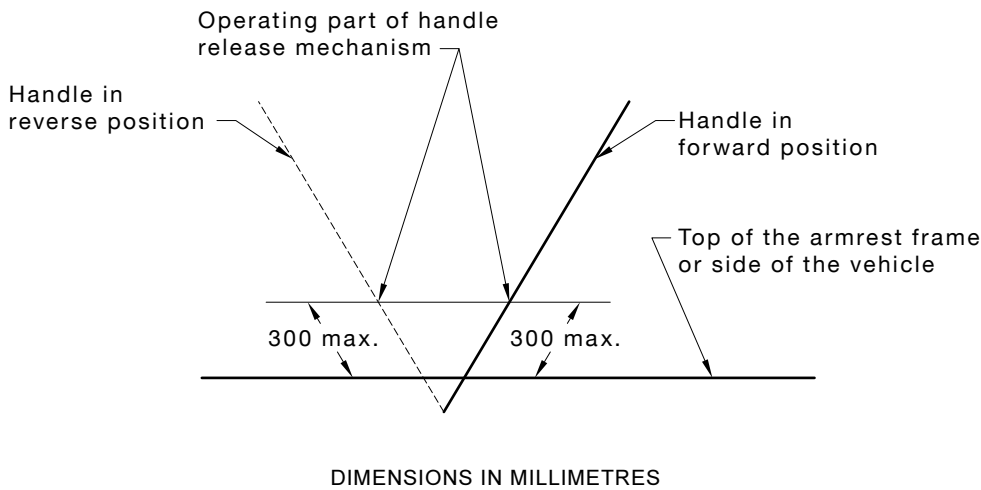


FIGURE 2 POSITION FOR REVERSIBLE HANDLES HAVING AT LEAST ONE RELEASE MECHANISM

8.4 Footrest

Strollers shall be fitted with a footrest. Where a stroller is designed for more than one child, provision shall be made for each child. Toddler seats shall have a footrest if the distance between the front edge of the seat and the ground or any wheel is 30 cm or less.

NOTE: This requirement is to reduce the likelihood of the child’s feet reaching the ground or wheel while the child is properly restrained in the stroller/toddler seat.

8.5 Detachable components

Any component that is designed to be detachable, the removal of which would be hazardous to the child, shall be attached to the vehicle in such a manner that the means of attachment shall be either—

- (a) not accessible to the child while the child is properly restrained in the vehicle; or
- (b) resistant to being operated by the child. This means the mechanism shall not be a single action release mechanism unless the force required to operate the mechanism is at least 40 N.

NOTE: It is difficult to specify a location for release mechanisms which will ensure that a child cannot come into contact with them under all conditions of use.

Any component that is designed to be detachable shall not fit entirely into the small parts cylinder when tested in accordance with Appendix T. (See also Clause 9.2.)

8.6 Parking brakes

8.6.1 General

Vehicles shall be fitted with either—

- (a) a manual parking brake or an automatic parking brake that complies with the requirements of Clause 9.6.2; or
- (b) a manual parking brake that complies with the requirements of Clause 9.6.2, and an automatic parking brake that complies with the requirements of Clauses 9.6.3 and 9.6.4.

Manual and automatic parking brakes shall comply with the requirements of Clause 9.6.1.

NOTE: Manufacturers should consider including an automatic parking brake to prevent vehicles running away when the vehicle is parked and the manual parking brake has not been applied.

8.6.2 Parking brake actuator

Each parking brake actuator shall comply with the following:

- (a) Be located such that it is not accessible to the child while the child is properly restrained in the vehicle. (See Note to Clause 8.5).
- (b) Be red in colour, and the surrounding components such as the framework and mouldings shall be a contrasting colour.
- (c) Be able to be operated using one hand or one foot.

8.7 Locking devices

8.7.1 Locking device for folding vehicles

8.7.1.1 General

Locking devices shall have a distinct locked position and shall not appear locked when they are not.

Folding vehicles shall have, at least, either—

- (a) a separate primary and secondary locking device as specified in Clause 8.7.1.2 and Clause 8.7.1.3; or
- (b) a combined primary and secondary locking device as specified in Clause 8.7.1.4.

NOTE: Locking devices include all parts of the mechanism that cause the vehicle frame to lock including the actuator, the connection to the frame and the means of locking. Other locking devices such as those for the detachable seat, foldable handle, footrest or parcel tray do not fall under this section.

8.7.1.2 *Separate primary locking device*

The following requirements apply:

- (a) The primary locking device shall lock the folding mechanism in the normal operating position of the vehicle.
- (b) The device shall require positive action on the part of the operator to release the device.

The device may be operated manually.

8.7.1.3 *Separate secondary locking device*

The following requirements apply:

- (a) The secondary locking device shall be separate from, and act independently of, the primary locking device.
- (b) The device shall lock the folding mechanism automatically when the vehicle is erected for use, but shall require positive action on the part of the operator to release it.
- (c) Release of the secondary locking device shall not release or impair the efficiency of the primary locking device.
- (d) Where the chassis and body, or chassis and seat can be separated, the secondary locking device shall operate on the chassis.
- (e) When the primary locking device is released, the secondary locking device shall not permit any folding action in any plane above the seating surface of the vehicle to move more than one-third of its total movement between the normal operating and fully folded positions.

The secondary locking device can be identical to the primary locking device in design and operation provided it meets the secondary locking device requirements above.

8.7.1.4 *Combined primary and secondary locking device*

A combined primary and secondary locking device where the secondary locking device acts to prevent actuation of the primary locking device is acceptable provided it complies with the following:

- (a) The primary locking device shall act on and lock the frame at two separate points and comply with the requirements of Clause 8.7.1.2.
- (b) Both the primary and secondary locking devices shall lock automatically when the vehicle is erected for use.
- (c) The secondary locking device shall require positive action on the part of the operator to release it. The device shall require an operating principle that is different from that of the primary locking device. It shall require an operating force of not less than 20 N or 0.5 Nm, and shall automatically return to its engaged position after use.
- (d) Release of the secondary locking device shall not release or impair the efficiency of the primary locking device.

8.7.2 *Actuators for locking and latching devices*

The actuator for locking devices that prevents a vehicle from folding, and the actuator for latching devices that retains a seating unit, bassinet, child restraint, toddler seat, toddler platform or other accessory that supports the occupant, shall not be capable of becoming inadvertently released.

The actuator for any locking or latching device shall not be accessible to the child while the child is properly restrained in the vehicle or require a force of at least 40 N to operate if it is accessible to the child.

8.7.3 *Storage latch*

Vehicles shall have a device to secure the vehicle in its folded form. The latch should engage automatically when the vehicle is folded.

NOTE: The storage latch is required so the vehicle can be carried without the frame opening and possibly causing injury.

8.8 **Occupant retention**

8.8.1 *Harness configuration*

The following requirements apply:

- (a) Strollers and toddler seats shall have integral, permanently fixed waist and crotch straps, and securely attached shoulder straps for each seating position. Harnesses shall meet the requirements of Clauses 8.8.2, 8.8.3, 8.8.4 and 9.7.1.
- (b) The adjustable range of the harness shall be such that the harness can be adjusted to fit the range of occupants for whom the vehicle is designed as stated in the instructions or other printed material.
- (c) The buckling device, associated tongues and other components of the harness assembly shall be constructed such as to prevent their removal from the straps.
- (d) The main (central) buckle shall not be capable of becoming inadvertently released. It shall either—
 - (i) require two separate operations to release; or
 - (ii) if the mechanism can be released with a single action, then a force of at least 40 N shall be required to release the buckle tongues. This force shall be applied to the actuator in the normal manner of actuation but shall not be applied within 3 mm of the edge of the actuator surface.

NOTE: The force should be applied through a probe with conical tip that tapers down to a point of not more than 0.1 mm in diameter.

Each individually releasable connection to the main (central) buckle shall comply with the requirements of this Item (d).

- (e) When all straps are adjusted to their longest setting and the tongues of the main (central) buckle are released, there shall be no straps or combination of straps that create a loop with an internal perimeter greater than 360 mm.
- (f) When all straps are adjusted to their shortest setting and the tongues of the main (central) buckle are released, there shall be no straps or combination of straps that create a loop with an internal perimeter greater than 360 mm.
- (g) If the main (central) buckle is designed to prevent loops being formed by the harness straps, the ends of the shoulder and the waist straps shall become disconnected from each other and from the buckle after actuation of the buckle. Where the waist and shoulder straps remain connected to each other following their release from the buckle, then they shall separate when a force of not more than 20 N is applied in all possible practical directions.
- (h) Prams do not require a harness.

8.8.2 *Shoulder straps*

Shoulder straps shall comply with the following:

- (a) Have a minimum width of 15 mm.
- (b) Have provision for adjustment to fit the occupant.
- (c) Not form loops as required by Clause 8.8.1 Items (e) and (f).

- (d) Have one of the following connections:
- (i) Have provisions for adjustment such that they meet the seat backrest at the following heights when the backrest is in the fully upright position—
 - (A) 265 ± 25 mm; and
 - (B) 320 ± 25 mm; and
 - (C) 380 ± 25 mm if the stroller is suitable for a child 18 kg or greater; and
 - (D) 265 ± 25 mm for a toddler seat.

This requirement does not preclude having additional heights.

Shoulder straps shall meet the seat back with a maximum distance of 150 mm between their inside edges at the point of attachment or transition through the seat back.

- (ii) Be attached to the rear portion of the waist strap such that the distance between the inside edges of the shoulder straps is no greater than 100 mm when measured at the upper edge of the waist strap where it meets the shoulder straps.

8.8.3 *Waist straps*

Waist straps shall comply with the following:

- (a) Have a minimum width of 20 mm.
- (b) Waist straps and fittings for waist straps shall be secured to the frame of a stroller/toddler seat either directly or by their securement to the seat which shall be secured to the frame of the stroller/toddler seat at a point where the seat cannot be pulled away substantially from its normal seated position.

When a force of 50 N is applied to the waist straps in an attempt to pull it from the intersection of the seating surface and the backrest in a manner shown in Figure K3, the said intersection shall not displace by more than 100 mm.

Where there is no defined intersection then the displacement shall be measured from where the lowest edge of the waist strap is attached to the backrest.

- (c) Not form loops, as required by Clause 8.8.1 Items (e) and (f).

8.8.4 *Crotch strap*

The crotch strap shall—

- (a) have a minimum width of 20 mm;
- (b) be permanently fixed to the main (central) buckle; and
- (c) be attached to the seating surface so that it prevents the occupant sliding forward.

The length of the crotch strap may be adjustable.

8.9 **Head barrier**

Strollers/toddler seats in which the backrest or seat reclines to an angle greater than 150° to the horizontal when in the fully reclined position shall—

- (a) have a barrier provided, which shall prevent the occupant sliding out the head end of the seat; and
- (b) not create a head entrapment hazard (see Clause 9.7.2).

If the vehicle has multiple occupant positions in tandem configuration, the requirements for the head barrier shall apply to the rearmost occupant position of the vehicle only.

8.10 Foot end openings

Strollers/toddler seats in which the backrest or seat reclines to an angle greater than 150° to the horizontal shall—

- (a) be designed such that the openings at the foot end shall be of such a size as to prevent head entrapment of children; or
- (b) provide a means of closing the openings at the foot end such that small children do not become entrapped.

Other openings around the seating area and under toddler seats shall be of such a size as to prevent small children from becoming entrapped (see Clause 9.7.3).

8.11 Seating and reclining surface

With the exception of a liner, any component that forms the seating and reclining surface shall not be detachable except with the use of a tool or with complete removal of the vehicle trim assembly including the seating and reclining surface.

NOTE: Any fabric structure within 100 mm above and including the seating and reclining surface should not form a pocket which will trap a child's head when fully reclined.

8.12 Toddler platform

Toddler platforms shall be attached to the stroller such that a child can stand upright unimpeded by the seat, canopy or other accessory. A structure on the vehicle such as the handle tubing shall be provided so that a child can grasp it with each hand.

The platform shall have a non-slippery surface.

8.13 Tether strap

The following requirements apply:

- (a) Vehicles shall be provided with a suitable tether strap to allow the vehicle to be tethered to the vehicle operator while it is in use.
- (b) The tether strap shall be permanently fixed to the vehicle frame so as to be always available to the vehicle operator.
- (c) The tether strap shall be designed to minimize the possibility of it being a strangulation hazard for a child inside or outside the vehicle such that—
 - (i) the free length of the strap when attached to the intended part of the vehicle shall be not greater than 400 mm; and
 - (ii) any loop in the strap shall have a perimeter not greater than 360 mm.

8.14 Hazardous gaps and openings that can injure persons other than the occupant

The vehicle shall be designed such that the potential hazard of scissoring, shearing, pinching or crushing is minimized for the user and other persons or children other than the occupant when the vehicle is in use and especially during folding or unfolding. (See also Clause 9.5).

9 PERFORMANCE REQUIREMENTS

9.1 Durability

9.1.1 Static durability

When tested in accordance with Appendix B, the vehicle shall not incur structural failure.

9.1.2 *Dynamic durability*

When the vehicle is tested in accordance with Appendix C the amount of angular displacement of each wheel shall not increase by more than 0.1 radians (5.7 degrees), the vehicle shall not incur structural failure and no accessory shall become dislodged or detached.

9.1.3 *Kerb mounting durability*

When tested in accordance with Appendix D, the vehicle shall not incur structural failure.

9.2 Projections

Any component, except those which are designed to be detachable, that is able to be grasped with the thumb and forefinger or teeth of a child while the child is properly restrained in the vehicle, shall be tested in accordance with Appendices E and F. This includes projections such as zip tabs, fabric and plastic labels, and any other similar attachments.

After testing to Appendices E and F, any component that becomes detached shall not fit entirely into the small parts cylinder when tested in accordance with Appendix T. (See also Clause 8.5.)

9.3 Hazardous sharp edges

There shall be no hazardous sharp edge on the vehicle when the vehicle is tested in accordance with Appendix G.

9.4 Hazardous sharp points

There shall be no hazardous sharp point on the vehicle when the vehicle is tested in accordance with Appendix H.

9.5 Hazardous gaps and openings that can injure the occupant

When tested in accordance with Appendix U, the vehicle shall not pose an injury hazard while the child is properly restrained in the vehicle/toddler seat, as a result of—

- (a) scissoring, shearing, pinching or crushing when adjoining or adjacent components pivot, fold up, open up or close in; or
- (b) gaps that are created when force is applied to the handlebar unit of a connected handlebar or, if the vehicle has separate handles, to each separate handle.

NOTE: An example of a scissoring action may be found at the hood of a vehicle when it is being folded. A scissoring action at or near the hinge or pivot where the adjacent components are more rigid poses a greater risk of injury than two bows making contact farther away from the hinge or pivot where the adjacent components are more flexible.

9.6 Parking brakes (see also Clause 8.6)

9.6.1 *Durability*

When tested in accordance with Appendix I, manual and automatic parking brakes shall not incur structural failure.

9.6.2 *Efficiency*

When determined in accordance with Appendix J, any distance between the two points marking the position of each braked wheel shall be—

- (a) not more than 50 mm for wheels up to 200 mm in diameter; or
- (b) not more than 90 mm for wheels greater than 200 mm.

9.6.3 *Resistance to rolling*

Where an automatic parking brake is provided, the vehicle shall not roll more than 300 mm when tested in accordance with Appendix J.

9.6.4 *Automatic parking brake*

The release actuator for the automatic parking brake shall operate with a force of 40 N or less.

9.7 **Occupant retention**

9.7.1 *Harness assembly*

(a) *Efficiency*

When determined in accordance with Appendix K, all components of the harness assembly shall not show any signs of damages, the waist and shoulder straps shall not become unfastened, and any slippage of adjustable straps shall be not more than 6 mm for each application of the test load.

(b) *Configuration*

When tested in accordance with Appendix W, the harness assembly shall comply with the requirements of Clause 8.8 and the following—

- (i) The waist straps shall lie between the 50 mm and 125 mm graduations on the test cylinder.
- (ii) Any gap between the test cylinder and the waist strap and between the test cylinder and the backrest shall not allow the 25 mm diameter probe to enter.
- (iii) The crotch strap attachment point or transition point to the seating surface shall be not more than 136 mm from the backrest, i.e. underneath or right at the edge of the test cylinder.
- (iv) The range of heights of the waist straps for the range of lengths of the crotch strap shall be between 100 to 200 mm.
- (v) The shoulder straps shall meet the backrest or transition through the backrest at heights specified in Clause 8.8.2(d)(i).

9.7.2 *Head barrier*

Strollers/toddler seats with backrests or seats that recline to an angle greater than 150° to the horizontal, shall comply with the following:

(a) *Efficacy*

When tested in accordance with Appendix L, the probe shall not break through the barrier or go over the head end of the seat, or go over the barrier, and the barrier shall not collapse.

(b) *Entrapment*

When tested in accordance with Appendix L, the head end of strollers/toddler seats that have fabric trims or upholstery that can be removed or partially removed without the use of tools or necessitating the removal of the fabric from the seating and reclining surface of the stroller/toddler seat, shall not have any gap that allows the passage of the probe, unless the gap is 250 mm or greater above the reclining surface.

NOTE: Any fabric structure within 100 mm above and including the seating and reclining surface should not form a pocket which will trap a child's head when the stroller's backrest or seat is in the fully reclined position.

9.7.3 *Foot end openings*

When tested in accordance with Appendix M, the foot end openings of strollers/toddler seats with backrests or seats that recline to an angle greater than 150° to the horizontal, shall—

- (a) be fitted with a device to enclose the foot opening area which shall prevent a 95 mm probe passing through any gaps; or
- (b) accept the passage of a 160 mm probe.

NOTES:

- 1 Manufacturers of strollers with a back recline angle greater than 150° to the horizontal for use with babies, are encouraged to include a foot end enclosing device to prevent babies slipping out.
- 2 A foot muff, leg cover or boot cover is considered as a foot end enclosing device.

9.8 **Stability**

9.8.1 *General stability*

When tested in accordance with Appendix N, the vehicle shall not tip over. (See also Clause 9.15.)

9.8.2 *Vehicles with reclining backrests or seats*

When tested in accordance with Appendix S, strollers with backrests or seats that recline to an angle greater than 150° to the horizontal shall not tip over.

9.9 **Security of wheels**

When tested in accordance with Appendix O, wheels and wheel-locking devices shall neither become detached from the vehicle nor incur structural failure.

9.10 **Security of reversible handle engagement**

When tested in accordance with Appendix P, the reversible handle shall not disengage from its locking positions.

9.11 **Security of locking devices for folding**

When tested in accordance with Appendix Q the following requirements apply:

- (a) For locking devices that are located on the sides of the vehicle and accessible to the child while the child is properly restrained in the vehicle, all locking devices shall remain fully engaged.
- (b) For locking devices that are not covered in Item (a), at least one of the locking devices on the vehicle shall remain fully engaged.
- (c) For a vehicle with a combined primary and secondary locking device, the secondary locking device shall remain operational after the required force is applied to the primary locking device actuator.
- (d) After testing, all locking devices shall remain operational.

When tested in accordance with Appendix V—

- (i) all locking devices shall remain engaged and not incur structural failure; and
- (ii) no locking device shall fail and result to the angle between the seating surface and the backrest becoming reduced by more than a quarter of its normal angle.

9.12 Security of latching devices for accessories

When tested in accordance with Appendix V—

- (a) all latching devices shall remain engaged and not incur structural failure;
- (b) the accessory shall not become detached from the vehicle; and
- (c) if the accessory became dislodged from the vehicle during testing, then, neither the vehicle nor the accessory shall tip over when tested to Appendix N.

Where latching devices can be manually released and if the accessory became dislodged from the vehicle when tested in accordance with Appendix V, then, neither the vehicle nor the accessory shall tip over when tested to Appendix N.

9.13 Connection of child restraint

When tested in accordance with Appendix V, the child restraint shall not become dislodged from the vehicle.

9.14 Toddler platform

When tested in accordance with Appendices B, and C, the toddler platform shall not incur structural failure or become detached from the vehicle.

When tested in accordance with Appendix N, the vehicle shall not tip over.

9.15 Other accessories

When tested in accordance with Appendices B, C and D, any other accessory shall not incur structural failure or become dislodged or detached from the vehicle.

When tested in accordance with Appendix N, the vehicle shall not tip over and any accessory shall not become dislodged or detached from the vehicle.

10 TESTING

Testing shall be conducted as follows:

- (a) Unless specified otherwise, tests shall be carried out in the sequence given in Table 1 with the vehicle in the most onerous configuration, including the carrying of an additional child, goods, or accessories if supplied by the manufacturer. Unless otherwise specified in a particular test, the most onerous configuration shall include swivel wheels in their unlocked condition and swivelled in the most unfavourable direction.
- (b) Unless otherwise specified in a particular test, testing shall be conducted with the maximum load as stated in the manufacturer's instructions.
- (c) Where a vehicle has the option for a bassinet, child restraint, toddler seat, toddler platform or other accessory that the child will sit or lie in or stand on, the relevant test procedure shall be performed using the combination of occupant positions loaded at the same time which will result in the greatest total loading if it is possible to use the vehicle and accessories in such a manner.
- (d) Where vehicles are designed to be used with a number of accessories, testing shall be conducted in each mode. It is permissible to use more than one vehicle to complete the evaluation and test sequences in Table 1. More than one accessory may be tested at the same time on the one vehicle, but each accessory needs to be subjected only to the tests that are applicable to it. For example, a toddler platform may be tested at the same time with a toddler seat, but the toddler platform does not need to be subjected to the test for kerb mounting durability.

- (e) Accessories shall be tested either—
 - (i) on a vehicle, still in satisfactory condition following previous testing; or
 - (ii) on a new vehicle.

TABLE 1
SEQUENCE OF DESIGN EVALUATION AND TESTING

Test sequence	Description of test	Reference clause	Test method (Appendix)	Prams or strollers with bassinet	Strollers or vehicles with detachable seats	Vehicles with toddler seat	Vehicles with child restraint	Vehicles with toddler platform	Vehicles with other accessories (see Note 3)
A Preconditioning testing									
1	Test for static durability	9.1.1	B	Y	Y	Y	Y	Y	Y
2	Test for dynamic durability	9.1.2	C	Y	Y	Y	Y	Y	Y
3	Test for kerb mounting durability	9.1.3	D	Y	Y	Y	Y	—	Y
4	Toddler platform	8.12 and 9.14	B and C	—	—	—	—	Y	—
5	Other accessories	9.15	B, C and D	—	—	—	Y	—	Y
B Design and performance									
6	Pram dimensions	5	—	Y	—	—	—	—	—
7	Objects which could come into contact with a child's head	8.1	—	Y	Y	Y	—	—	Y
8	Open-ended tubes	8.2	—	Y	Y	Y	—	—	Y
9	Footrest	8.4	—	Y	Y	Y	—	—	Y
10	Detachable components	8.5	T	Y	Y	Y	—	Y	Y
11	Test for removability of a projection by a torque force	9.2	E and T	Y	Y	Y	—	—	Y
12	Test for removability of a projection by a tensile force	9.2	F and T	Y	Y	Y	—	—	Y
13	Test for hazardous sharp edges	9.3	G	Y	Y	Y	—	Y	Y
14	Test for hazardous sharp points	9.4	H	Y	Y	Y	—	Y	Y
15	Test for hazardous gaps and openings	9.5	U	Y	Y	Y	—	Y	Y
16	Durability of parking brakes	8.6 and 9.6.1	I	Y	Y	Y	—	—	—
17	Efficiency of parking brakes	8.6 and 9.6.2	J and R	Y	Y	Y	—	—	—
18	Resistance to rolling of automatic parking brake	8.6 and 9.6.3	J and R	Y	Y	Y	—	—	—
19	Release actuator of automatic parking brake	8.6 and 9.6.4	—	Y	Y	Y	—	—	—
20	Test for stability	9.8.1	N	Y	Y	Y	Y	Y	Y

(continued)

TABLE 1 (continued)

Test sequence	Description of test	Reference clause	Test method (Appendix)	Prams or strollers with bassinet	Strollers or vehicles with detachable seats	Vehicles with toddler seat	Vehicles with child restraint	Vehicles with toddler platform	Vehicles with other accessories (see Note 3)
21	Test for stability against overbalancing	9.8.2	S	Y	Y	Y	—	—	Y
22	Occupant retention	8.8	—	Y	Y	Y	—	—	—
23	Determination of efficiency of harnesses and attachments for harnesses	9.7.1(a)	K	Y	Y	Y	—	—	—
24	Test for harness configuration	9.7.1(b)	W	Y	Y	Y	—	—	—
25	Head barrier	8.9	—	Y	Y	Y	—	—	Y
26	Head barrier probe test	9.7.2	L	Y	Y	Y	—	—	Y
27	Foot end openings	8.10	—	Y	Y	Y	—	—	Y
28	Foot end openings probe test	9.7.3	M	Y	Y	Y	—	—	Y
29	Seating and reclining surface	8.11	—	Y	Y	Y	—	—	Y
30	Test for security of wheels	9.9	O	Y	Y	—	—	Y (see Note 3)	Y
31	Reversible handles	8.3	—	Y	Y	Y	—	—	—
32	Test for security of reversible handle engagement	9.10	P	—	Y	—	—	—	—
33	Locking devices	8.7	—	Y	Y	Y	Y	—	—
34	Security of locking devices	9.11	N, Q and V	Y	Y	Y	Y	—	—
35	Security of latching devices	9.12	N and V	Y	Y	Y	Y	—	Y
36	Connection of child restraint	9.13	V	—	—	—	Y	—	—
See Note 2	Toys	7.3	—	(see Note 1)	(see Note 1)	(see Note 1)	—	—	(see Note 2)
See Note 2	Toxicity	6.1	—	Y	Y	Y	Y	Y	Y

NOTES:

- 1 'Y' if a toy is supplied.
- 2 The sequence of testing is not specified and is left to the tester to decide.
- 3 The requirement of test must be applied if relevant to the accessory.

11 PACKAGING AND INFORMATIVE LABELLING

11.1 Plastic packaging

Flexible plastic packaging or wrapping that is a bag, capable of being formed into a bag or capable of forming an opening with a perimeter of 350 mm or more and a depth of 130 mm or more, shall be either—

- (a) perforated with round holes of at least 5 mm in diameter (or other shaped holes of equivalent area) so that when the whole of a square template (measuring 150 mm along each side) is placed anywhere on the packaging, the template will completely cover at least one of the perforation holes; or
- (b) made from a plastic material that has a thickness of 38 µm or more and carrying a cautionary label similar to the following:

WARNING: TO AVOID DANGER OF SUFFOCATION TO BABIES AND CHILDREN DISPOSE OF THIS IMMEDIATELY.

NOTE: The dimensions of 350 mm and 130 mm are measured after the packaging has been laid and spread out flat to its fullest extent.

11.2 Printed instructions

11.2.1 General

The following requirements apply:

- (a) Printed instructions shall be supplied with the vehicle for its safe use, operation and maintenance.
- (b) Instructions shall be in English, but this shall not prohibit the additional use of other languages or the use of diagrams.
NOTE: It is important that simple language is used in instructions.
- (c) Printing shall be clear and legible and shall be in either uppercase or lowercase letters, where appropriate.
- (d) The uppercase letters shall be not less than 2.5 mm in height and shall be black on a white background.
- (e) The word '**WARNING**' shall be in bold, uppercase letters and not less than 5 mm in height.
- (f) The safety alert symbol in Figure 3 shall not be less than 6 mm in height.



FIGURE 3 SAFETY ALERT SYMBOL

11.2.2 Content

Instructions for safe use shall include the following:

- (a) The warnings specified in Clauses 12.1.2, 12.1.3 and 12.1.4, amplified if necessary.
- (b) Warnings for the use of the harness assembly and instructions for its use accompanied by diagrams which clearly show the correct fitting and method of adjustment.
- (c) Instructions and reasons for use if there is a manual or automatic device provided to close the foot opening area.
- (d) A warning to never leave the harness buckled when not fitted to a child in the pram/stroller* because the harness can form loops which may pose a strangulation hazard.
- (e) Operating instructions for parking brakes.
- (f) Instructions for erecting and folding, with particular reference to all locking devices and storage latch, highlighting the danger of being injured in moving parts; and advice on safe carrying of the folded vehicle; and instructions for applying or engaging the storage latch if the storage latch does not engage automatically.
- (g) Instructions for initial assembly and operational features as applicable.
- (h) Instructions for regular inspection and maintenance, e.g. lubrication, freedom of movement of locking devices, and security of essential components.
- (i) Advice that it is unsafe to use accessories other than those approved by the vehicle manufacturer.
- (j) Advice that care be taken if the pram/stroller* is used on stairs or escalators.
- (k) Advice that the pram/stroller* not be used near an open fire or exposed flame.
- (l) Advice that the brakes must always be applied when the pram/stroller is not moving.
- (m) If a toddler seat is supplied separate from the vehicle, i.e. not in the same carton, instructions for its installation and use shall be provided. Such instructions shall include the information required by Clause 12.1(e).
- (n) If a vehicle is approved for use with a child restraint, or child restraints, identification of the models of child restraints involved and instructions for use and installation shall be provided.
- (o) For accessories, advice shall be provided as to which vehicles the accessory may be used with.
- (p) Accessories packed separately shall have their own instruction sheet or book.
- (q) The maximum weight capacity for the pram, stroller, pockets and storage containers and other accessories such as toddler seat and toddler platforms.
- (r) Advice that the vehicle is designed for use on flat or gently sloping surfaces and may be unstable on higher sloping and uneven surfaces; and users should be made aware of the possibility of the vehicle tipping over. Illustrations or diagrams may be used to demonstrate the hazard.
- (s) Advice that there is potential for fingers or parts of the body to be injured when the vehicle is being folded or unfolded, and that due care should be exercised.
- (t) Advice on how to lift and carry the vehicle safely, including advice to ensure that the storage latch is engaged when lifting or carrying the vehicle.
- (u) Any other necessary information relating to safe usage.

* Manufacturer to insert the appropriate term according to Clause 4.

12 MARKING

12.1 General

NOTE: Manufacturers making a statement of compliance with this Australia/New Zealand Standard on a product, packaging or promotional material related to that product, are advised to ensure that such compliance is capable of being verified.

12.1.1 Identification markings

The following information shall be permanently fixed to vehicles:

- (a) The registered trade name and address in Australia and New Zealand of either the manufacturer, importer or other supplier.
- (b) The model name or number.
- (c) Month and year of manufacture. Examples of acceptable marking are September 2012, Sept 2012 or 9/2012.

NOTE: This does not preclude the inclusion of the day of manufacture and production batch reference.

12.1.2 Warning notices

The following warning notices shall be permanently fixed to vehicles:

- (a) A notice on the vehicle as follows:

WARNING: TO AVOID INJURY OR DEATH:

ALWAYS APPLY THE BRAKES WHENEVER THE PRAM/STROLLER* IS STATIONARY.

- **DO NOT LEAVE CHILDREN UNATTENDED.**
- **SECURE THE CHILD IN THE HARNESS AT ALL TIMES.**
- **DO NOT CARRY EXTRA CHILDREN OR BAGS ON THIS PRAM/STROLLER*.**
- **MAKE SURE CHILDREN ARE CLEAR OF ANY MOVING PARTS IF YOU ADJUST THE PRAM/STROLLER*.**

- (b) If a stroller is of the non-reclining type (i.e. if the backrest is not adjustable to an angle greater than 130° to the horizontal), add the following warning notice:

NOT RECOMMENDED FOR A CHILD UNDER 6 MONTHS OLD.

The notices in Items (a) and (b) of this Clause shall not be obscured by parts of the vehicle or accessories, and shall not be placed on detachable components.

The notices shall be in all uppercase letters.

The notices shall be visible from one side of the vehicle and shall be placed on the vehicle not lower than half the height from the top of the handle to the ground.

Other warnings or advice may be marked on the vehicle but they shall be separate from the above notices.

12.1.3 Additional warning notices

The following additional warning notices shall be permanently fixed to the relevant part of vehicles:

- (a) A notice on the harness as follows:

WARNING: USE THIS HARNESS AT ALL TIMES.

* Manufacturer to insert the appropriate term according to Clause 4.

- (b) A notice on the tether strap as follows:

WARNING: USE THIS STRAP TO STOP THE PRAM/STROLLER* ROLLING AWAY.

The notices shall be in all uppercase letters.

12.1.4 Markings on accessories

The following information and warning notices shall be permanently fixed to accessories:

- (a) For a toddler seat—

- (i) the model(s) of vehicle it is approved for use with;
- (ii) the maximum weight of child that can be carried in the toddler seat; and
- (iii) the following warning notice:

WARNING: DO NOT USE THIS SEAT WITH ANY OTHER MODELS OF PRAM/STROLLER*.

- (b) For a bassinet—

- (i) the model(s) of vehicle it is approved for use with;
- (ii) the maximum weight of child that can be carried in the bassinet; and
- (iii) the following warning notice:

WARNING: DO NOT USE THIS BASSINET ONCE THE CHILD CAN SIT UP UNAIDED.

- (c) A reference to identify the accessory and its limitation of use.

- (d) Other appropriate safety warnings.

The notices in Items (a) and (b) of this Clause shall not be obscured by parts of the vehicle or accessories, and shall not be placed on detachable components.

The notices shall be in all uppercase letters.

The notice shall be visible from one side of the accessory.

12.2 Legibility of marking

The following requirements apply:

- (a) Printing shall be clear and legible and shall be in either uppercase or lowercase letters where appropriate.
- (b) The uppercase letters shall be not less than 2.5 mm in height and shall be black on a white background.
- (c) The word '**WARNING**' shall be in black, bold, uppercase letters and not less than 5 mm in height.
- (d) The safety alert symbol (see Figure 3) shall appear before the word '**WARNING**' and shall be not less than 6 mm in height (see Figure 4).
- (e) The background of both the triangle and the word '**WARNING**' shall be either yellow or orange.

* Manufacturer to insert the appropriate term according to Clause 4.



FIGURE 4 SAFETY ALERT SYMBOL AND THE WORD WARNING

12.3 Adhesive labels and printed-on markings

Adhesive labels shall be permanently fixed and show no sign of curling, peeling or damage.

Markings printed directly on the surface of the product shall show no sign of fading or damage.

12.4 Fabric warning labels

Fabric warning labels shall be affixed by sewing on all sides.

12.5 Durability of marking

The wording and symbols on labels fixed to, and markings printed on, the product shall be easily legible after being rubbed by hand for 15 s with a piece of cloth soaked in water, allowed to dry and rubbed for 15 s with a piece of cloth soaked with undiluted liquid domestic hand dishwashing detergent.