(substantial part of the content adapted from BS 4792:1984)
Amendment 1 - February 1989.

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PRAMS AND STROLLERS—SAFETY REQUIREMENTS

For referenced documents see p.4

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This Australian Standard was prepared by Committee CS/20, Prams and Strollers. It was approved on behalf of the Council of the Standards Association of Australia on 12 January 1988 and published on 7 March 1988.

The following interests are represented on Committee CS/20:

Attorney-General's Department
Australian Chamber of Manufactures
Australian Consumers Association
Australian Retailers Association
Confederation of Australian Industry
Department of Consumer Affairs, New South Wales
Department of Health, New South Wales
Department of Public and Consumer Affairs, South Australia
Royal Alexandra Hospital for Children

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AUSTRALIAN STANDARD

PRAMS AND STROLLERS—SAFETY REQUIREMENTS

AS 2088—1988

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PREFACE

This Standard was prepared by the Association's Committee on Prams and Strollers to supersede AS 2088—1977, *Safety requirements for prams and pushchairs*, following a request from the National Safety Council of Australia (South Australian Division) which was concerned about the stability of strollers which could be reclined.

The need for a revision of the Standard had become increasingly evident because of the proliferation of design features of prams and strollers and the frequency and seriousness of reported injuries to children in accidents involving these vehicles. A substantial part of the content is adapted from the British Standard BS 4792:1984, *Safety requirements for pushchairs*.

The important first step in the preparation of this edition was to ensure that the Standard covered the multiplicity of prams and strollers currently available and that it included the many adaptable features of these vehicles in the safety requirements. Definitions, therefore, have been important, and all those vehicles in which any part of the body of the vehicle does not remain fixed in a boat-like or box-like shape are defined as strollers. Wherever applicable, tests in the Standard require the vehicle to be tested in all configurations of seat and handle.

Tests have been included to locate any features which may be hazardous, such as finger and flesh entrapment points, and projections. In strollers which recline to an angle greater than 150 degrees to the horizontal, the child must be prevented from falling from the back of the stroller by means such as the backrest forming a box-like barrier or by the provision of shoulder straps as an additional component of the restraint assembly. To encourage the use of full safety restraint assemblies, all vehicles are required to have incorporated fittings for the attachment of a safety restraint in addition to the specified restraint assembly which must be provided.

Attention has also been given to the stability of vehicles in the specification for the loading of a vehicle in tests where loading is relevant. Additional test dummies are required for vehicles, or vehicles with accessories which have been specified by the manufacturer as suitable for more than one child. In these cases, the test for stability is conducted with any parcel tray left unloaded, and with the vehicle containing only the dummy which is farthest from the centre of gravity of the vehicle.

Wherever appropriate, the Standard is aligned with BS 4792:1984, and this applies particularly to locking devices and parking devices. The requirements for parking devices include provision for an agreed amount of movement in some parking devices which do not engage immediately on operation of the device and in which some degree of forward or backward movement may be necessary before the device becomes fully engaged.

This Standard also adopts the British Standard Endurance Test (Test for Dynamic Durability), Test for Stability, Test for Security of Wheels, and Kerb Mounting Test. The latter test calls for the vehicle to be raised and lowered 150 mm from the floor to simulate the average height of roadside kerbs in Australia.

In preparing the standard, the committee was aware of the economic considerations inherent in specifying an inordinate number of tests in a Standard. However, a means of measuring the efficiency of vehicle components following a simulated period of wear was essential, and, to achieve this, the Standard specifies that each of the initial tests for compliance of vehicle components be repeated following the series of three rigorous tests for durability. Again, this test sequence is similar to the series of tests in BS 4792:1984.

STANDARDS AUSTRALIA
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AMENDMENT No 1
to
AS 2088—1988
PRAMS AND STROLLERS—SAFETY REQUIREMENTS

REVISED TEXT

The 1988 edition of AS 2088 is amended as follows; the amendment(s) should be inserted in the appropriate place.

SUMMARY: This Amendment applies to Clause 7.1, Table 1, and Appendices A, B, C, D, E, F, G, H, K, L, M, N, P, Q, R, and .

Published on 13 February 1989.

AMDT No 1 FEB. 1989

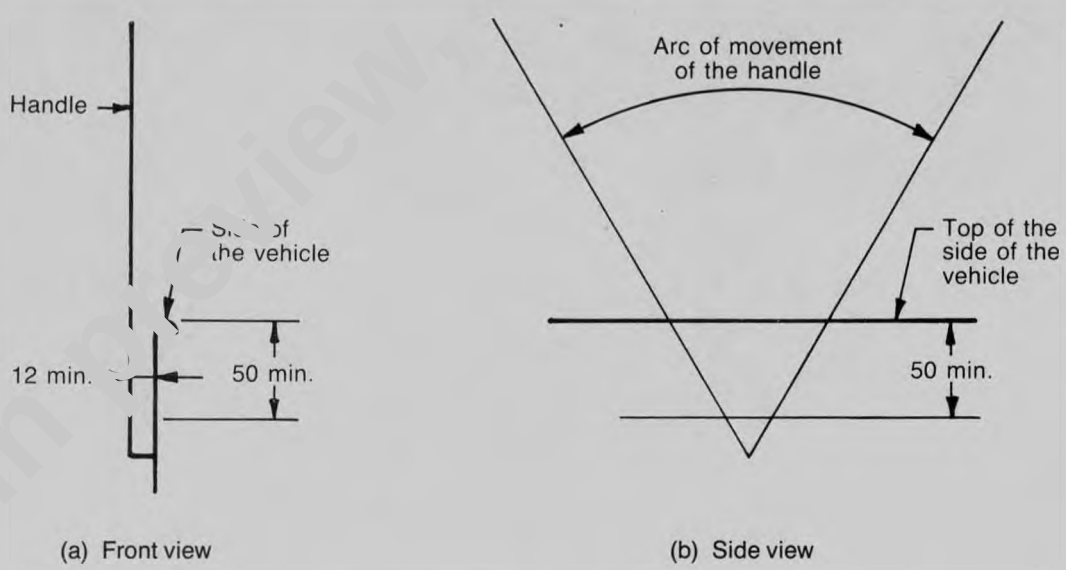
Page 5. Clause 7.1.

Delete existing clause and *substitute*:

7.1 Entrapment hazards: The following shall apply:

(a) Vehicles shall not contain any open-ended tubes in which a child's finger(s) could be trapped when the child is properly restrained in the vehicle.

(b) Where reversible handles are provided, the clearance between the handle parts and the side of the vehicle for a distance downwards of not less than 50 mm throughout the arc of movement of the handle shall be not less than 12 mm (see Figure 1).



DIMENSIONS IN MILLIMETRES

FIGURE 1 CLEARANCE FOR REVERSIBLE HANDLES

AMDT No 1 FEB. 1989

Page 6. Table 1.

Delete entries for Test sequences 1 and 16.

AMDT No 1 FEB. 1989

Page 8. Appendix A.

Delete the appendix.

AMDT No 1 FEB. 1989

Page 10. Paragraph B6, Appendix B.

Insert new Item (b) as follows:

(b) A description of the configuration(s) in which the vehicle was tested.

Renumber existing Item (b) as '(c)', and Item (c) as '(d)'.

AMDT No 1 FEB. 1989

Page 12. Paragraph C6, Appendix C.

Insert new Item (b) as follows:

(b) A description of the configuration(s) in which the vehicle was tested.

Renumber existing Item (b) as '(c)'.

AMDT No 1 FEB. 1989

Page 13. Paragraph D5, Appendix D.

Insert new Item (b) as follows:

(b) A description of the configuration(s) in which the vehicle was tested.

Renumber existing Item (b) as '(c)', and Item (c) as '(d)'.

AMDT No 1 FEB. 1989

Page 14. Paragraph E5, Appendix E.

Insert new Item (b) as follows:

(b) A description of the configuration(s) in which the vehicle was tested.

Renumber existing Item (b) as '(c)', and Item (c) as '(d)'.

AMDT No 1 FEB. 1989

Page 15. Paragraph F5, Appendix F.

Insert new Item (b) as follows:

(b) A description of the configuration(s) in which the vehicle was tested.

Renumber existing Item (b) as '(c)', and Item (c) as '(d)'

AMDT No 1 FEB. 1989

Page 16. Paragraph G5, Appendix G.

Insert new Item (b) as follows:

(b) A description of the configuration(s) in which the vehicle was tested.

Renumber existing Item (b) as '(c)', and Item (c) as '(d)'.

AMDT No 1 FEB. 1989

Page 17. Paragraph H4, Appendix H.

Insert new Item (b) as follows:

(b) A description of the configuration(s) in which the vehicle was tested.

Renumber existing Item (b) as '(c)', and Item (c) as '(d)'.

AMDT No 1 FEB. 1989

Page 19. Paragraph K5, Appendix K.

Insert new Item (b) as follows:

(b) A description of the configuration(s) in which the vehicle was tested.

Renumber existing Item (b) as '(c)', Item (c) as '(d)', and Item (d) as '(e)'.

AMDT No 1 FEB. 1989

Page 22. Paragraph L3, Appendix L.

Delete existing paragraph and *substitute*:

L3 APPARATUS. The following apparatus is required:

(a) The apparatus described in Appendix F.

(b) Rectangular blocks of section not greater than 25 mm × 25 mm, capable of preventing the slippage of wheels on the tilted platform.

AMDT No 1 FEB. 1989

Page 22. Paragraph L4, Appendix L.

Delete Item (b) and *substitute*:

(b) Place the vehicle laterally on the tilting platform. Using the blocks specified in Paragraph L3(b), block the wheels to prevent slippage on the platform, and tilt the platform to an angle of 12 degrees both forwards and backwards.

AMDT No 1 FEB. 1989

Page 22. Paragraph L5, Appendix L.

Insert new Item (b) as follows:

(b) A description of the configuration(s) in which the vehicle was tested.

Renumber existing Item (b) as '(c)', and Item (c) as '(d)'.

AMDT No 1 Feb. 1989

Page 22. Paragraph M5, Appendix M.

Insert new Item (b) as follows:

(b) A description of the configuration(s) in which the vehicle was tested.

Renumber existing Item (b) as '(c)', Item (c) as '(d)', and Item (d) as '(e)'.

AMDT No 1 Feb. 1989

Page 23. Paragraph N3, Appendix N.

Delete Item (b) and *substitute*:

(b) Floor stops with a height which is more than half the radius of the wheel and capab. of chocking the wheels, fixed to a hard floor.

AMDT No 1 Feb. 1989

Page 23. Paragraph N5, Appendix N.

Insert new Item (b) as follows:

(b) A description of the configuration(s) in which the vehicle was tested.

Renumber existing Item (b) as '(c)', Item (c) as '(d)', Item (d) as '(e)', and Item (e) as '(f)'.

AMDT No 1 Feb. 1989

Page 25. Paragraph P5, Appendix P.

Insert new Item (b) as follows:

(b) A description of the configuration(s) in which the vehicle was tested.

Renumber existing Item (b) as '(c)', and Item (c) as '(d)'.

AMDT No 1 Feb. 1989

Page 26. Paragraph Q5, Appendix Q.

Insert new Item (b) as follows:

(b) A description of the configuration(s) in which the vehicle was tested.

Renumber existing Item (b) as '(c)', Item (c) as '(d)', and Item (d) as '(e)'.

AMDT No 1 Feb. 1989

Page 30. Paragraph P5, Appendix R.

Delete Item (c).

Renumber existing Item (d) as '(c)', and Item (e) as '(d)'.

AMDT No 1 Feb. 1989

Page 30. Paragraph R5, Appendix R.

Insert new Item (b) as follows:

(b) A description of the configuration(s) in which the vehicle was tested.

Renumber existing Item (b) as '(c)', and Item (c) as '(d)'.

AMDT No 1 Feb. 1989

Page 31. Paragraph S3, Appendix S.

Delete Item (a)(i) and *substitute*:

(i) A test dummy, being a solid cylinder 200 ±5 mm in diameter and 300 ±5 mm in height, having a mass of not less than 15 kg and with its centre of gravity 150 ±5 mm above its base. All edges shall have a radius of 5 ±1 mm.

Two harness anchorage points shall be provided. These shall be positioned 150 ±5 mm from the base (at the centre of gravity) and at 180 degrees to each other around the circumference.

Delete Item (b)(i) and *substitute*:

(i) A test dummy, being a solid cylinder 200 ±5 mm in diameter and 300 ±5 mm in height, having a mass of not less than 9 kg and with its centre of gravity 150 ±5 mm above its base. All edges shall have a radius of 5 ±1 mm.

Two harness anchorage points shall be provided. These shall be positioned 150 ±5 mm from the base (at the centre of gravity) and at 180 degrees to each other around the circumference.

AMDT No 1 Feb. 1989

Page 31. Paragraph S4, Appendix S.

Delete Item (a)(i) and *substitute*:

(i) Place the dummy specified in Paragraph S3(a)(i) in the stroller in the normal position for a child and fasten it by means of a safety restraint attached to the anchorage points on the stroller. Adjust the restraint to limit movement of the dummy to 50 mm in any direction. In every configuration of the backrest of the stroller, ensure that the 50 mm limit of movement is maintained.

Delete Item (b)(i) and *substitute*:

(i) Place the dummy specified in Paragraph S3(b)(i) in the pram in the normal position for a child and fasten it by means of a safety restraint attached to the anchorage points on the pram. Adjust the restraint to limit movement of the dummy to 50 mm in any direction.

CONTENTS

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
PRAMS AND STROLLERS—SAFETY REQUIREMENTS

1 SCOPE. This Standard specifies safety requirements for prams and strollers.

2 REFERENCED DOCUMENTS. The following Standards are referred to in this Standard:

AS
1192 Electroplated coatings—Nickel and chromium
1647 Children's toys—Safety requirements
Part 3: Toxicological requirements (AS 1647.3)
1815 Method for Rockwell hardness test
Part 1: Testing of metals (AS 1815.1)
1956 Anodic oxidation coatings on aluminium for decorative and automotive applications

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

3.1 Accessory—any item which is not an integral part of the vehicle but is specified by the manufacturer as being suitable for use with the vehicle.

3.2 Applied—a parking device is considered to be applied when the user has fully and correctly operated any lever or other mechanism that is intended to be used in order to change the condition of the parking device from one in which it is not preventing and will not prevent movement of the vehicle or rotation of the wheel or wheels on which it operates, and no account is taken of whether or not the completion of that operation causes the parking device to become immediately effective in preventing movement of the vehicle or rotation of the wheel or wheels on which it operates. The word 'apply' is construed accordingly.

3.3 Load—the test dummy or test dummies simulating a child or children (as specified in Appendix S) and weight of goods or accessories specified in printed instructions provided with the vehicle

3.4 Pram—a vehicle with a body of box-like or boat-like shape designed to transport a baby or child up to and including the weight of 9 kg primarily in a fully reclined position.

3.5 Quick-release mechanism—a securing device which is released instantaneously by one action such as pushing a button or some other component.

3.6 Stroller—a vehicle designed to transport a child in a seated position which may also be adjusted to a semi-reclined or a fully reclined position.

3.7 Vehicle—a pram or stroller.

3.8 Wheel—either a single wheel or a set of adjacent wheels attached to the same mounting point, unless otherwise stated.

4 DIMENSIONS. The minimum depth of the body of a pram measured from the interior base to the upper edge of the body shall be 180 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.

5 MATERIALS.

5.1 Toxicity. All materials and coatings shall comply with the relevant requirements of AS 1647.3.

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

5.3 Electroplated coatings of nickel and chromium. Nickel and chromium electroplating shall comply with the requirements for Service Condition No 2 (Moderate) specified in AS 1192.

5.4 Anodic oxidation coatings. Anodized aluminium frames shall be anodized in accordance with the requirements for Class 1 (minimum average thickness 10 μm) specified in AS 1956.

6 CONSTRUCTION.

6.1 Objects which could come into contact with a child's head. A pram, or a stroller in any configuration, shall not have any objects which are not well padded or otherwise protected and which could come into contact with a child's head when the child is properly restrained in the vehicle.

6.2 Footrest. Strollers shall be fitted with a footrest or other means of preventing the child's feet from reaching the ground when the child is properly restrained in the vehicle. Where a stroller is designed for more than one child, provision shall be made for each child.

6.3 Detachable seat. Where any seat of a stroller is detachable from the chassis, the seat shall be designed so that the means of attachment—

(a) is not comprised of a quick-release mechanism; or

(b) is not easily accessible to a child while the child is properly restrained in the stroller.

NOTE: It is not possible to specify a location for objects which will ensure that a child cannot come into contact with these objects under all conditions of use.

6.4 Parking device. Vehicles shall have a parking device that limits movement of the vehicle as specified in Clauses 7.5.1 and 7.5.2. The release mechanism of the parking device shall be located so that it is not easily accessible to a child while the child is properly restrained in the vehicle. (See Note to Clause 6.3.)

6.5 Safety restraint. Arrangements for the restraint of the child shall be provided as follows:

(a) All vehicles shall have incorporated fittings suitable for the attachment of a child's safety restraint.

(b) Strollers shall have incorporated an integral, permanently attached crotch strap and integral, permanently attached waist straps with a minimum width of 20 mm.