

Australian Standard®

**Yachting harnesses and lines—
Conventional lines**

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APPENDIX B
METHOD OF TEST FOR DYNAMIC LOAD
 (Normative)

B1 SCOPE This Appendix sets out a method for determining the performance of adult and child harnesses under shock loading.

B2 PRINCIPLE The harness is mounted on a dummy and the end of the line is attached to a rigid mounting. The dummy is then allowed to drop a specified distance with the line arresting the fall.

B3 APPARATUS The following apparatus is required:

B3.1 Adult harness A suitable rigid dummy having a mass of $136 + 10, -0$ kg and constructed so that its centre of gravity approximates that of a man is required.

NOTES:

1 This dummy is identical with the one specified in AS 1891.

2 This dummy is used for all type testing; however for production testing a dummy of mass $95 + 10, -0$ kg may be used with a dropping distance of 2 m instead of 1.47 m.

B3.2 Child harness A suitable rigid dummy approximating the torso of a 50th percentile 12-year-old boy* and having a mass of $47 + 5, -0$ kg is required. The centre of gravity of the dummy shall approximate that of the child which it represents.

B4 PROCEDURE The procedure shall be as follows:

- (a) Thoroughly wet the harness and line and attach the harness to the dummy exactly as it would be attached to a human wearer, and secure the line to a rigid and robust anchorage.
- (b) Raise the dummy in an upright posture and hold it in position by a quick-release device in such a way that the anchorage of the line and the point of attachment of the line to the harness are as nearly as possible in the same vertical line.
- (c) Locate the anchorage point so that the dummy will fall through the appropriate dropping distance, as set out in Table B1, when the quick-release device is activated.
- (d) Operate the quick-release device and allow dummy to fall freely.

NOTE: Figures B1 and B2 show the test set-up.

B5 TEST REPORT The test report shall contain the following:

- (a) Mass of the dummy and dropping distance used for the test.
- (b) Whether the dummy was retained by the harness.
- (c) Whether any part of the harness or line failed or deformed.
- (d) Whether the webbing slipped or slackened by more than 25 mm.
- (e) Reference to this test method, i.e. Appendix B of AS 2227.

TABLE B1
DROPPING DISTANCES FOR DYNAMIC LOAD TEST

Harness type	Test mass kg	Dropping distance m	Remarks
Adult	$136 + 10, -0$	1.47	—
Adult	$95 + 10, -0$	2	Not to be used for type testing
Child	$47 + 5, -0$	2	—

* Reference: *Charts and Tables of Heights, Masses and Head Circumferences of Infants and Children*. Canberra: National Health and Medical Research Council, Australian Department of Health, 1975.

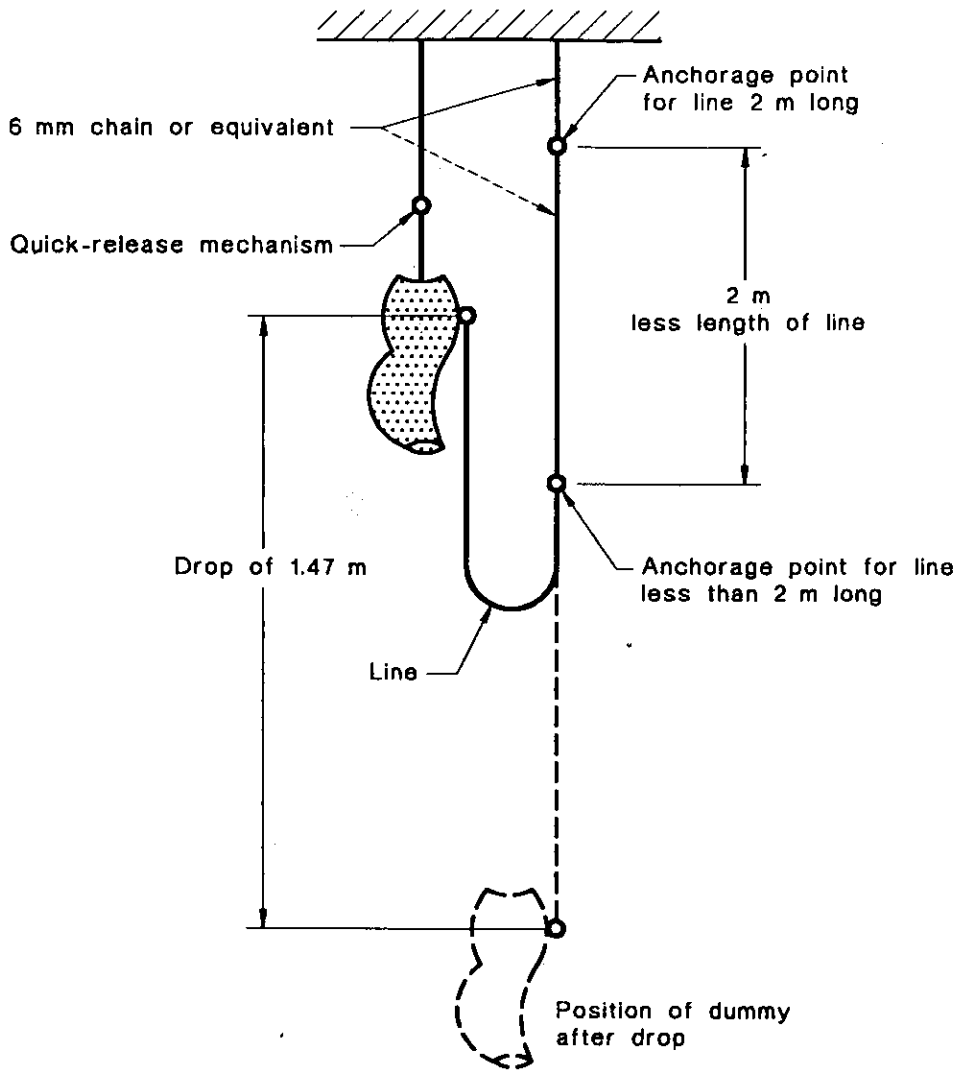


FIGURE B1 SPATIAL POSITIONS OF THE ENDS OF THE LINE FOR DYNAMIC LOAD TEST USING 1.47 m DROPPING DISTANCE

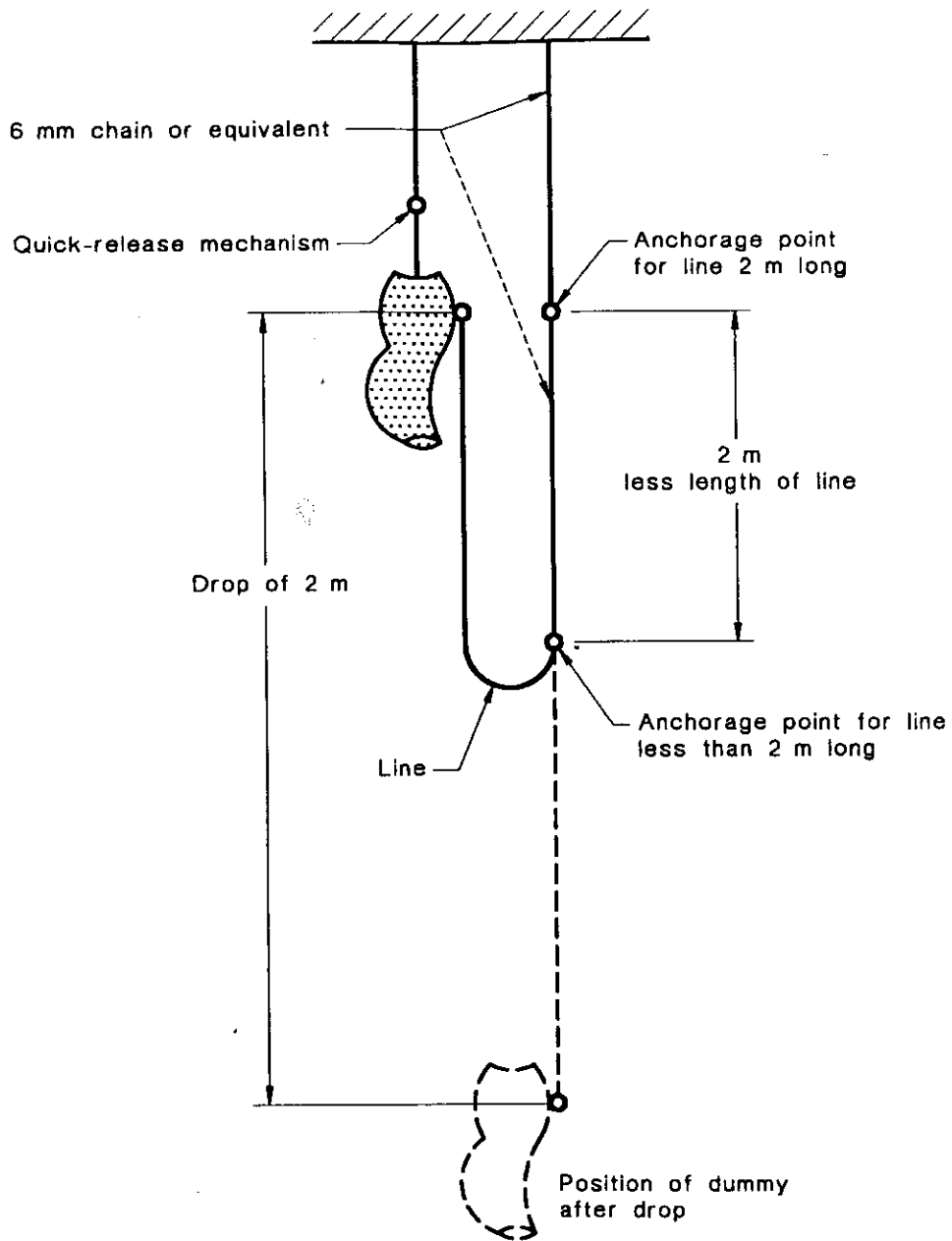


FIGURE B2 SPATIAL POSITIONS OF THE ENDS OF THE LINE FOR DYNAMIC LOAD TEST USING 2 m DROPPING DISTANCE

APPENDIX A
METHOD OF TEST FOR NON-MAGNETIC PROPERTIES
(Normative)

A1 SCOPE This Appendix sets out a method for determining the non-magnetic properties of metal used in yachting harnesses and lines.

A2 PRINCIPLE Each metal component is placed close to a compass and any resultant deflection of the compass card is recorded and used as a measure of the component's magnetic properties.

A3 APPARATUS The following apparatus is required:

- (a) A direct-reading magnetic compass.
- (b) A magnet.
- (c) A ruler or measuring tape to ensure metal components are 300 mm from the compass when being tested.

A4 PROCEDURE The procedure shall be as follows:

- (a) Place the compass in an undisturbed magnetic area, i.e. an area where magnetic items or d.c. electric cables are not continually moved or switched.
- (b) Check the compass to ensure that it has negligible pivot friction. This can be done by deflecting the compass card 10 degrees by means of a magnet and then removing the deflecting force. The card should return to within 0.5 degree of its original position.
- (c) Present the metal components (with fittings closed) individually to the compass in an approximate E to W line, to a position where the nearest point of the component is 300 mm horizontally from the centre of the compass. Lightly tap the compass to eliminate the effect of friction.
- (d) Record the maximum deflection of the compass card for each metal component.

A5 TEST REPORT The test report shall contain the following:

- (a) The maximum deflection recorded by the compass as caused by the metal components.
- (b) Reference to this test method, i.e. Appendix A of AS 2227.