

Australian Standard[®]

Small craft—Steering systems

**Part 4: Hydraulic steering systems
for craft up to 24 m hull length**

[ISO title: Small craft — Hydraulic steering systems]

This Australian Standard was prepared by Committee CS/1, Small Pleasure Boats. It was approved on behalf of the Council of Standards Australia on 31 December 1996 and published on 5 March 1997.

The following interests are represented on Committee CS/1:

Aluminium Development Council
Australasian Corrosion Association
Australian Boating Industry Association
Australian Customs Service
Australian Maritime Safety Authority
Australian Yachting Federation
Boat Owners Association of N.S.W.
Department of Defence
Institute of Marine Engineers
Police Department, N.S.W.
Queensland Department of Transport
University of New South Wales
Waterways Authority

Review of Australian Standards. To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.

Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

Australian Standard[®]

Small craft—Steering systems

**Part 4: Hydraulic steering systems
for craft up to 24 m hull length**

Originated as part of AS 1799—1975.
Previous edition part of AS 1799.3—1985.
Revised and redesignated in part as AS 4451.4—1997.

PREFACE

This Standard was prepared by the Standards Australia Committee CS/1, Small Pleasure Boats, to supersede (in part) AS 1799.3—1985, *Small Pleasure Boats Code, Part 3: Engineering*.

The objective of this Standard is to provide the minimum requirements for hydraulic steering systems for craft up to 24 m hull length.

This Standard is identical with and has been reproduced from ISO 10592:1994, *Small craft—Hydraulic steering systems*.

As this Standard is reproduced from an International Standard, the following applies:

- (a) Its number appears on the cover and title page while the International Standard number appears only on the cover.
- (b) In the source text ‘this International Standard’ should read ‘this Australian Standard’.
- (c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to equivalent Australian Standards, as follows:

ISO		AS
10240	Small craft—Owner’s manual	—

© Copyright — STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

CONTENTS

1	Scope	1
2	Normative reference	1
3	Definitions	1
4	Outboard motor and inboard-outdrive requirements	1
5	General requirements for hydraulic steering systems	2
6	Hydraulic fluid	3
7	Materials	3
8	Installation	3
9	Test requirements	3
10	Owner's manual	7
11	Installer's manual	7
12	Designation	8
13	Marking of components	8

AUSTRALIAN STANDARD

Small craft—Steering systems

Part 4:

Hydraulic steering systems for craft up to 24 m hull length

1 Scope

This International Standard specifies requirements, test methods, manuals for both the owner and the installer, and the designation for hydraulic steering systems and components from the wheel to the interface point for outboard motor, inboard motor and inboard-outdrive steering arrangements, used on small craft of up to 24 m length of hull.

Accessories connecting output rams to tiller arms or equivalent are not included.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 10240:—¹⁾, *Small craft — Owner's manual*.

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1 system maximum working pressure: Relief valve pressure setting.

3.2 system test pressure: Non-destructive test pressure, at least one and half times the system maximum operating pressure.

3.3 minimum retained system performance: System capability after test(s) such that at least 90 % of the steering arc normally available to each side of the mid-position may be obtained by exertion of no more than 27 Nm of torque at the helm, through the wheel or other normal control.

NOTE 1 This criterion does not define steering system performance while a boat is underway but is intended to provide quantitative limits for design and test purposes.

3.4 craft-mounted hydraulic system: System in which a cylinder is secured to the boat.

3.5 motor-mounted hydraulic system: System in which a cylinder is secured to the engine.

3.6 drag link: Link in a motor-mounted steering system by which the linear force of the output ram is transmitted to the motor steering arm.

4 Outboard motor and inboard-outdrive requirements

4.1 Steering stops on an outboard motor shall permit at least 30° of angular movement to either side. The design torque at the rudder stock shall be sufficient to put the helm from hard over to hard over (30° port to 30° starboard or vice versa) in not more than 30 s.

4.2 Outboard motors shall meet the applicable dimensional requirements indicated in figures 1 and 2.

4.3 Necessary fittings to attach an outboard motor to the cylinder output rod shall be supplied with the outboard motor.

1) To be published.