AMENDMENTS TO THE UNIFORM SHIPPING LAWS CODE

Amendment List 4 — April 1997.

This list contains amendments adopted by the Australian Transport Council, at the meeting of the Marine and Ports Group on 4 March 1997, to the various Sections of the *Uniform Shipping Laws Code*.

The amendments are with respect to the clauses or part of clauses specified under the various Sections of the Code listed overleaf. Clauses or parts of clauses not shown as amended, or not referred to as deleted, are unchanged. The date on which each of the amendments was adopted is specified after the amendment. ***TEXT IN BOLD ITALIC CAPITALS CONTAINS INSTRUCTIONS WHICH ARE TO BE APPLIED TO THE REFERENCED TEXT.***

SUMMARY OF AMENDMENTS

SSAC 20 (11 & 12 November 1996)

Amendment to Section 6, Clause 3.1 - 3.4
(Crew Accommodation – Application)

Amendment to Section 6, Clause 14 to 20
(Crew Accommodation on vessels of less than 25 metres)

Amendment to Section 8, Clause C12.7
(Stability Criteria for Monohull Sailing Vessels)

Amendment to Section 8, Clause C14
(Stability Criteria for Catamaran Sailing Vessels)

Amendment to Section 1, Definitions

Amendment to Section 1, Appendix A

MPG adopted the above amendments on 4 March 1997.

SECTION 6

CLAUSES 3.1 TO 3.4 ARE REPLACED WITH THE FOLLOWING TEXT:

3.1 Part 1 applies to Class 1, 2 and 3 vessels of 25 metres and over but less than 55 metres in length. Part 2 applies to Class 1, 2 and 3 vessels less than 25 metres in length.

3.2 Vessels of 55 metres in length and over shall comply with Marine Orders Part 14 – Accommodation.

3.3 Parts 1 and 2 do not apply to vessels which are normally engaged on voyages of less than 36 hours, or where the crew is not required to reside on board.

3.4 The requirements of Parts 1 and 2 may be varied in the case of any vessel if the Authority is satisfied, after consultation with the vessel's owners, that the variations provide corresponding advantages as a result of which the overall conditions are no less favourable than those which would result from the full application of the provisions of the Section.

3.5 The Authority, if satisfied that it is impractical for a vessel to comply with any provision of Part 1 or Part 2, may exempt that vessel from compliance with such requirement to the extent specified and subject to such conditions as the Authority thinks fit. The Authority shall provide the owner of the vessel with an Exemption Certificate, to be carried on board the vessel, showing all such requirements from which the vessel has been exempted, and specifying the extent of the exemption, and specifying the conditions to which the exemption is subject.

AFTER NEW CLAUSE 3.5 A NEW HEADING IS INSERTED:

PART 1 – Crew Accommodation – Vessels of 25 metres and over

(Amendment dated 4 March 1997)

AFTER PROVISION 13.2 ON PAGE 4, A NEW HEADING AND NEW TEXT IS INSERTED AS FOLLOWS:

PART 2 – Crew Accommodation –Vessels of less than 25 metres

14 General

14.1 All vessels where the crew sleep on board, or where the crew live on board, shall be fitted with approved crew accommodation.

14.2 Accommodation on new vessels and replacement vessels, and new accommodation installed on existing vessels, shall comply with all the following minimum requirements.

14.3 For existing accommodation the requirements are at the discretion of the authority..

14.4 The location, structure and arrangement of the crew accommodation shall be such as to ensure security, protection against the weather and sea, and insulation from heat, cold and noise.

14.5 The structure shall be permanent and rigid and shall comply with the relevant structural requirements of Section 5 of the USL Code or equivalent.

14.6 All internal surfaces shall be of a material that is easily kept clean, hygienic, and is impervious to damp.

14.7 Unless otherwise approved by the Administration, the clear head room in areas of free movement throughout the crew accommodation spaces shall be not less than 1.9 metres provided that this may be reduced at the sides to allow for camber, ducting or piping.

15. Lighting and Ventilation

15.1 Crew accommodation spaces shall be provided with adequate mechanical or natural ventilation to ensure sufficient air changes for a comfortable living environment and shall be lit so as to permit a person with normal vision to read in that space.

16. Access and Egress

16.1 Wherever practical, there shall be no direct access into sleeping rooms from machinery spaces.

16.2 Ready access shall be provided and the minimum clear head room in way of the access ladder or stairway shall not be less than 1.9 metres provided that this may be reduced at the sides to allow for camber, ducting or piping.

16.3 If the sleeping room is located on other than the main deck, then an inclined ladder or stairway complying with AS 1037/1983 or Section 5.E.6.4 of the USL Code shall be fitted.

16.4 Wherever practical on existing vessels, and on every new vessel, access to sleeping rooms shall be through a doorway.

16.5 If access to a sleeping room is through a deck opening, then the clear opening through the deck shall be at least 650 mm x 750 mm.

16.6 Where a hazard (such as a galley area) is located between the sleeping room and the open deck, an emergency escape must be provided. Where egress from a sleeping room to the deck is more than 5 metres, an alternate escape route is to be provided.

17. Sleeping Rooms

17.1 Each crew member shall be provided with an individual bunk, the minimum effective inside dimensions of which shall be 1.9 metres by 0.68 metres (0.60 metres in existing vessels).

17.2 Each bunk shall be fitted with a mattress of a type which will not attract pests or insects.

17.3 The clearance above each bunk shall be not less than 600mm (500mm in existing vessels).

17.4 The lowest bunk shall not be less than 300mm above the deck or floor.

17.5 Bunks shall not be placed side by side in such a way that access to one bunk can only be obtained over another bunk.

17.6 When one bunk is placed over another, a dustproof base of wood or other suitable material shall be fitted to the upper bunk.

17.7 The minimum clear deck space between bunks shall not be less than 600 mm.

17.8 Each crew member shall be provided with adequate storage space in the sleeping room in the form of a locker for the storage of personal items and clothes.

18. Toilet facilities

18.1 All vessels shall be provided with toilets, wash basins and showers as follows:

18.2 One flush toilet for every 8 persons or less (13 persons or less in existing vessels).

18.3 One shower with hot and cold fresh water for every 8 persons or less (13 persons or less in existing vessels).

18.4 One wash basin with hot and cold fresh water for every 8 persons or less (13 persons or less in existing vessels).

18.5 The location and construction of these facilities shall provide privacy to the users.

18.6 The toilet space shall be vented to atmosphere.

19. Messing facilities

19.1 Each vessel shall be provided with adequate table and seating arrangements for the number of persons likely to use them at any one time.

19.2 Adequate facilities shall be provided for the hygienic storage and preparation of food and drinks and for the proper disposal of waste.

20. Washing facilities

20.1 Facilities shall be provided for washing and drying clothes, commensurate with the time the vessel shall remain at sea.

(Amendment dated 4 March 1997)

SECTION 8

REPLACE THE TEXT OF PROVISION C.12.7 BY THE FOLLOWING:

C.12.7 Criteria for stability to be applied for Monohull sailing vessels of class 1 and 2 less than 15 m measured length

C.12.7.1 This alternative assessment may be used only for off-the-beach type vessels engaged in smooth or partially smooth operations.

All of the following criteria shall be met:

(a) The vessel shall have sufficient buoyancy to remain afloat when capsized.
(b) The vessel should be fitted with suitable hand holds or other means to allow a person to cling to the boat in the event of capsize. This requirement would not be necessary on boats proven to be self righting after severe knockdown or having a ballast keel which is locked in place and representing between 25 and 40 percent of the full load displacement.
(c) Any cockpit shall be self draining and watertight.
(d) Operation tests shall be performed to demonstrate that the rig is in fact handy, and that the vessel shows satisfactory handling characteristics under sail.
(e) The vessel shall be tested by being pulled down to 90 degrees from the upright and released. The vessel shall be under bare poles with openings through which flooding may occur closed, all gear normally carried secured in place and no persons on board. If the vessel returns to the upright without shipping water then its stability will be regarded as satisfactory.

OR

Compliance with the stability criteria contained in Australian Standard 1799-2 SECTION 4 *Requirements for other monohull yachts*.

OR

Compliance with the Hire and Drive sailing vessel criteria given in Section 18C.5.4.1 or 18C.5.4.2 as revised.

C.12.7.2 Class 2 monohull sailing vessels less than 15m measured length operating in smooth or partially smooth waters.

C.12.7.2.1 The centre of gravity (KG) of the vessel shall be established by an inclining experiment and curves of statical stability (GZ curves) are to be calculated for the following conditions:

(a) loaded departure with 95% consumables
(b) loaded arrival with 10% consumables

C.12.7.2.2 The derived wind heeling moment is to be calculated and plotted on each of the GZ curves to define the maximum recommended steady heel angle.

Note: The method of calculating the maximum steady heel angle is set out in Appendix C.

C.12.7.2.3 The GZ curves for each condition of loading shall show the vessel to have a minimum positive range of at least 110 degrees.

C.12.7.2.4 The angle of heel obtained from the intersection of the derived heeling lever curve with either of the GZ curves shall be greater than 15 degrees.

C.12.7.2.5 The following guidance notes and data, in a format which can be readily used by the operator shall be provided:

(a) plan of tanks and ballast
(b) sail plan with a polar diagram or similar data recommending maximum wind strength for the combination of sails set.
(c) angles of deck immersion and downflooding with an explanation of which openings were used for the calculation.
(d) guidance notes for the master which include an explanation of the recommended steady heel angle.
(e) guidance notes for the master setting out his responsibility for reducing sail.

C.12.7.2.6 A suitable inclinometer and anemometer are considered to be essential items of equipment.

C.12.7.3 Class 2 monohull sailing vessels less than 15m measured length operating in offshore and restricted offshore areas.

C.12.7.3.1 The calculations and data set out in C.12.7.2.1 and C.12.7.2.2 are required.

C.12.7.3.2 The stability criteria detailed in C.12.7.2.3 and C.12.7.2.4 shall be met.

C.12.7.3.3 Information to be provided for all vessels meeting C.12.7.3 shall be set out in three sections as follows:-

(1) OPERATIONAL INFORMATION

(a) plan of tanks and ballast
(b) sail plan which includes a table of areas and the centre of area of each sail above a specified base
(c) angles of deck immersion and downflooding with an explanation of which openings were used for the calculation
(d) notes on the stability characteristics of the vessel for the guidance of the master
(e) guidance notes for the master setting out his responsibility for reducing sail.

(2) TECHNICAL DATA

(a) tables of tank capacities with KG and free surface values
(b) conditions of loading with stability curves and wind heeling moments.

(3) REFERENCE INFORMATION

(a) hydrostatic data
(b) KN curves with an explanation of their use
(c) sample calculation from measured freeboards to entry into hydrostatic tables
(d) the inclining report and lightship data.

C.12.7.3.4 A suitable inclinometer and anemometer are considered to be essential items of equipment.

C.12.7.3.5 Watertight subdivision shall be in accordance with the relevant section of the USL Code.

C.12.7.4 Class 1 monohull sailing vessels less than 15 m measured length operating in smooth or partially smooth waters.

C.12.7.4.1 The calculations and data set out in C.12.7.2.1 and C.12.7.2.2 are required.

C.12.7.4.2 Using passenger crowding data as set out in C.1.1, the passenger moment is to be calculated and plotted on the GZ curves.

C.12.7.4.3 The stability criteria detailed in C.12.7.2.3 and C.12.7.2.4 shall be met.

C.12.7.4.4 The stability criteria detailed in C.1.3.4 shall be met with the vessel under bare poles.

C.12.7.4.5 The specific information for the guidance of the master set out in C.12.7.2.5 shall be provided.

C.12.7.4.6 A suitable inclinometer and anemometer are considered to be essential items of equipment.

C.12.7.5 Class 1 monohull sailing vessels less than 15m measured length operating in offshore & restricted offshore areas.

Note: Vessels over 15m, those carrying more than 50 persons, and those of unusual design or construction, shall be specially considered by the Authority.

C.12.7.5.1 The calculations and data set out in C.12.7.2.1 and C.12.7.2.2 are required.

C.12.7.5.2 Using passenger crowding data as set out in C.1.1, the passenger moment is to be calculated and plotted on the GZ curves.

C.12.7.5.3 The GZ curves for each condition of loading shall show the vessel to have a minimum positive range of at least 90 degrees. The angle of heel obtained from the intersection of the derived heeling lever curve with either of the GZ curves shall be greater than 15 degrees.

C.12.7.5.4 The stability criteria detailed in C.1.3.1.1 shall be met with the vessel under bare poles.

C.12.7.5.5 Damaged stability under bare poles is to be assessed for the conditions set out in Appendix 3 Section 5 Sub-Section C.

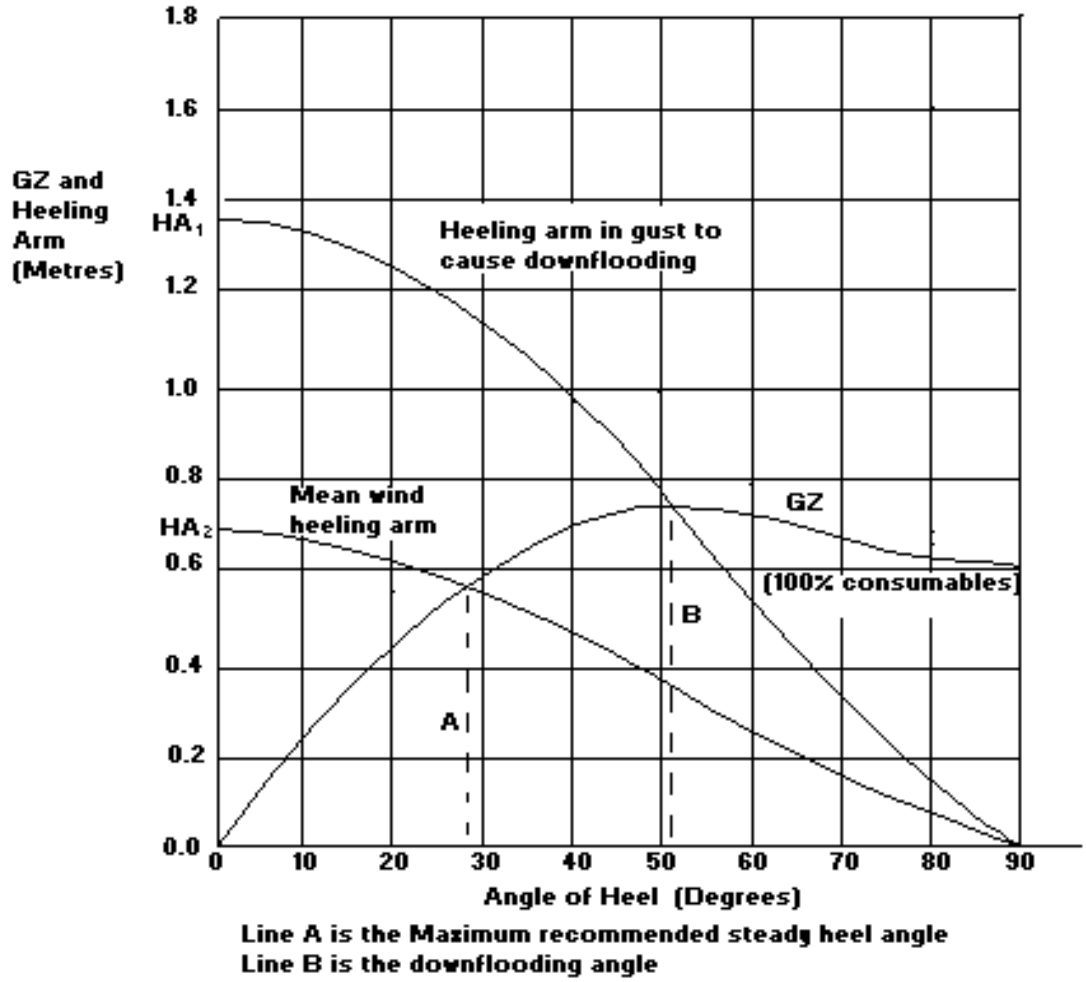
C.12.7.5.6 The specific information for the guidance of the master set out in C.12.7.3.3 shall be provided.

C.12.7.5.7 Watertight subdivision and loadline provisions shall be in accordance with the relevant sections of the USL Code.

C.12.7.5.8 A suitable inclinometer and anemometer are considered to be essential items of equipment.

APPENDIX C

Notes for Consultants on the Derivation of the Maximum Steady Heel Angle to Prevent Downflooding in Gusts



$HA_1 = \dfrac{GZ_f}{\cos^{1.3}\theta_f}$

Where HA_1 is the magnitude of the actual wind heeling lever at 0 degrees which would cause the ship to heel to the downflooding angle (θ_f) or 60 degrees whichever is least

GZ_f Is the lever of the ship's GZ curve at the downflooding angle θ_f or 60 degrees whichever is least

HA_2 Is the mean wind heeling arm at any angle θ degrees
$= 0.5 \times HA_1 \times \cos^{1.3}\theta$

(Amendment dated 4 March 1997)

SECTION 8

REPLACE THE TEXT OF PROVISION C.14 BY THE FOLLOWING:

C.14 Sailing Catamarans

General notes for sailing vessels C.12.1 to C.12.6 are applicable for catamarans.

C.14.1 Off-the-beach type catamarans that are under 7 m measured length of recognised design and operate on smooth or partially smooth waters during daylight hours only

These may be exempt from detailed stability analysis provided they meet all of the following:

(a) The vessel shall have sufficient buoyancy to support the crew and remain afloat when flooded or capsized. There shall be sufficient buoyancy in the mast to prevent the vessel inverting after capsize.

(b) Operational tests shall be performed to demonstrate that the sails may be lowered without outside assistance on the water in upright and capsized conditions.

(c) Operational tests shall be performed to demonstrate that the vessel shows satisfactory handling characteristics under sail and may be righted without outside assistance.

C.14.2 Class 2 sailing catamarans under 15 m measured length operating in smooth or partially smooth waters.

Vessels operating during daylight hours only may be considered to meet stability requirements if they meet clause 171.057 of US Coastguard Intact Stability Criteria as follows

$$\frac{0.6(W)B}{2(As)(Hm)} > 4.88 \text{ kg/square metre}$$

where:

B = distance between hull centrelines in metres
As = sail area in square metres
Hm = mast height above deck in metres
W = combined displacement of both hulls in kg

Watertight subdivision shall be in accordance with the relevant sections of the USL Code.

C.14.3 Class 2C sailing catamarans under 15m measured length operating in restricted offshore areas.

C.14.3.1 The minimum capsizing moment determined from the dynamic stability curve shall be in excess of the wind heeling moment based upon a pressure of 100 Pa (25 kts). Details of calculations for the minimum capsizing moment are given in Appendix D.

C.14.3.2 The maximum GZ value for the static stability curve shall be at an angle of 10 degrees or greater.

C.14.3.3 The area under the static stability curve to an angle θ shall be at least:

$3.15\left(\frac{30}{\theta}\right)$ metre degrees

where θ is the lesser of the angle of max GZ or 30 degrees.

C.14.3.4 Information to be provided for all vessels meeting C.14.3 shall be set out in three sections as follows:

(1) OPERATIONAL INFORMATION

(a) plan of tanks and ballast
(b) sail plan which includes the centre of area of each sail above a specified base
(c) angle of half hull emersion and full hull emersion at the given load conditions
(d) guidance notes for the master explaining the significance of maximum GZ with reference to range of stability and also setting out the masters responsibilities

(2) TECHNICAL DATA

(a) tank capacities and KG values
(b) conditions of loading with stability curves and wind heeling moments

(3) REFERENCE INFORMATION

(a) hydrostatic data
(b) KN curves and an explanation of their use
(c) reliable estimate of lightship VCG and LCG
(d) sample calculation from freeboard measurements to hydrostatic draft
(e) sample calculation and plot of wind heeling moment
(f) GZ curve illustrating the loss of effective area under the GZ curve in significant wave conditions.

C.14.3.5 Watertight subdivision shall be in accordance with the relevant section of the USL Code.

C.14.4 Class 1D sailing catamarans under 15m measured length operating in smooth or partially smooth waters.

C.14.4.1 the vessel shall comply with all stability criteria as set out in C.14.3.1 to C.14.3.3.

C.14.4.2 Specific data listed in C.14.3.4 is required.

C.14.4.3 the passenger moment is to be calculated using the passenger crowding data as set out in C.1.1.

C.14.4.4 With the vessel under bare poles the wind heeling moment based upon a pressure of 300 Pa is to be calculated.

C.14.4.5 When the combined passenger heeling moment and wind heeling moment is superimposed on the static stability curve the value of GZ at the intersection of the combined curves shall not exceed 60% of the maximum value of GZ.

C.14.4.6 Watertight subdivision shall be in accordance with the relevant sections of the USL Code.

C.14.5 Class 1 sailing catamarans less than 15m measured length operating in offshore and restricted offshore areas.

Note: Intact stability analysis is required for the vessel under bare poles as well as under sail. Damaged stability is to be calculated for bare poles.

C.14.5.1 The vessel shall comply with all stability criteria as set out in C.14.3.1 to C.14.3.3.

C.14.5.2 Specific data listed in C.14.3.4 is required.

C.14.5.3 Intact stability under bare poles is to be assessed for at least the following conditions:-

(a) loaded departure with 95% consumables
(b) loaded arrival with 10% consumables

C.14.5.4 The area under the static stability curve above the combined heeling moment due to passenger crowding and wind pressure calculated up to an angle θ shall be at least

$$1.60\left(\frac{30}{\theta}\right) \text{ metre degrees}$$

where θ is the lesser of GZ max or 30 degrees.

C.14.5.5 Damaged stability under bare poles is to be assessed for the conditions set out in Appendix 3 Section 5 Sub-Section C.

C.14.5.6 The area under the GZ curve for the damaged condition, above the wind heeling moment based upon a pressure of 100 Pa (25kts) shall be at least 1.6 metre degrees up to the angle of downflooding.

C.14.6 All sailing catamarans over 15m measured length operating in any area.

C.14.6.1 A full analysis acceptable to the Authority for typical operating conditions under sail shall be presented.

(a) to enable designers to audit the expected performance of the vessel and provide basic information for the operator
(b) to provide operators with data to generate comprehensive training, operation and maintenance programs
(c) to provide information to enable the authority to assess the levels of safety proposed for the vessels overall operation

An analysis similar to that detailed in the High Speed Craft (HSC) Code using recognised values for dynamic and static stability is required.

C.14.6.2 The specific data set out in C.14.3.4 shall be presented.

C.14.6.3 Watertight subdivision and loadline provisions shall be in accordance with the relevant sections of the USL Code.

APPENDIX D

General

If half hull emersion is considered to have the same recovery potential for catamarans as knock - down has for a monohull, then the next step, full hull emersion, could be equated with the down flooding angle for a monohull.

A comparison of the typical static stability curves (in fig.4) for a catamaran, with full hull emersion from 10 to 15 degrees, and a monohull with a downflooding angle from 50 to 60 degrees illustrates the impracticability of using balance of areas under the static stability curve as a criteria for sailing catamarans.

Instead, the dynamic stability curve is used to analyse the residual stability between the righting moment and the wind heeling moment.

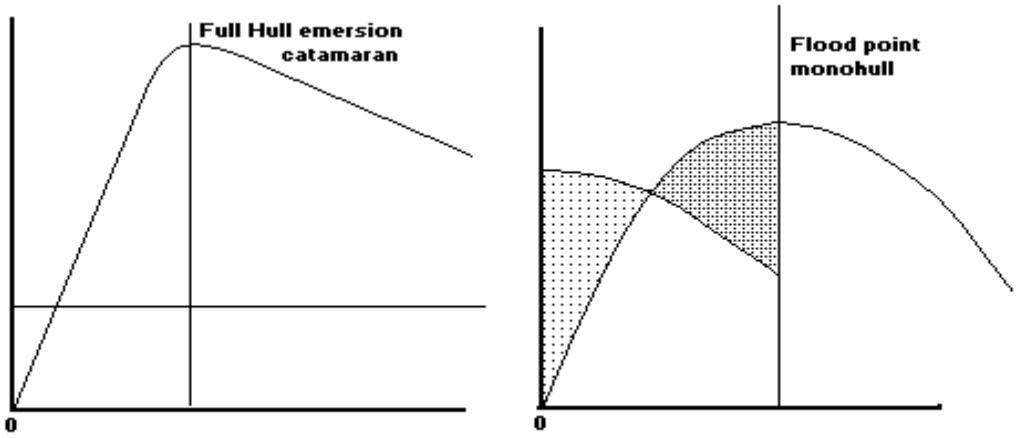


Fig. 4

The analogy with the inertia of rolling taking the vessel past the angle at which the GZ curve is cut will be appreciated in the following construction.

Calculation of capsizing moment

When the dynamic stability curve is used, an auxiliary point A for a relevant heel angle must be determined. For sailing catamarans, the angle of heel of interest is when full hull emersion occurs. This angle is plotted to the right along the abscissa axis and a perpendicular is taken up to cut the dynamic curve in A1 (see fig. 5). A line A1 - A is drawn parallel to the abscissa axis equal to the double amplitude of the heel angle and the required auxiliary point is found.

A tangent AC to the dynamic stability curve is drawn, the line A - A1 is extended to a point B one radian from A, and a perpendicular is taken up to cut the tangent in point E.

The distance BE is equal to the numerical value of the capsizing moment to the same scale as the ordinate axis.

Calculation of the wind heeling moment

The wind heeling moment is calculated using a pressure of 100 Pa (25kts) using the working sail plan. This comprises all sails that may be set when proceeding with the true wind less than 60 degrees off the bow.

As the wind heeling moment is to be considered as constant for all angles of heel, the area under the wind curve (a rectangle with length (57.3 - θ) where θ is the angle of max GZ) is calculated to the same scale as the dynamic curve and represented by a straight line cutting the RH ordinate in W, the calculated value.

$$\frac{\text{capsizing moment}}{\text{wind heeling moment}} > 1.0$$

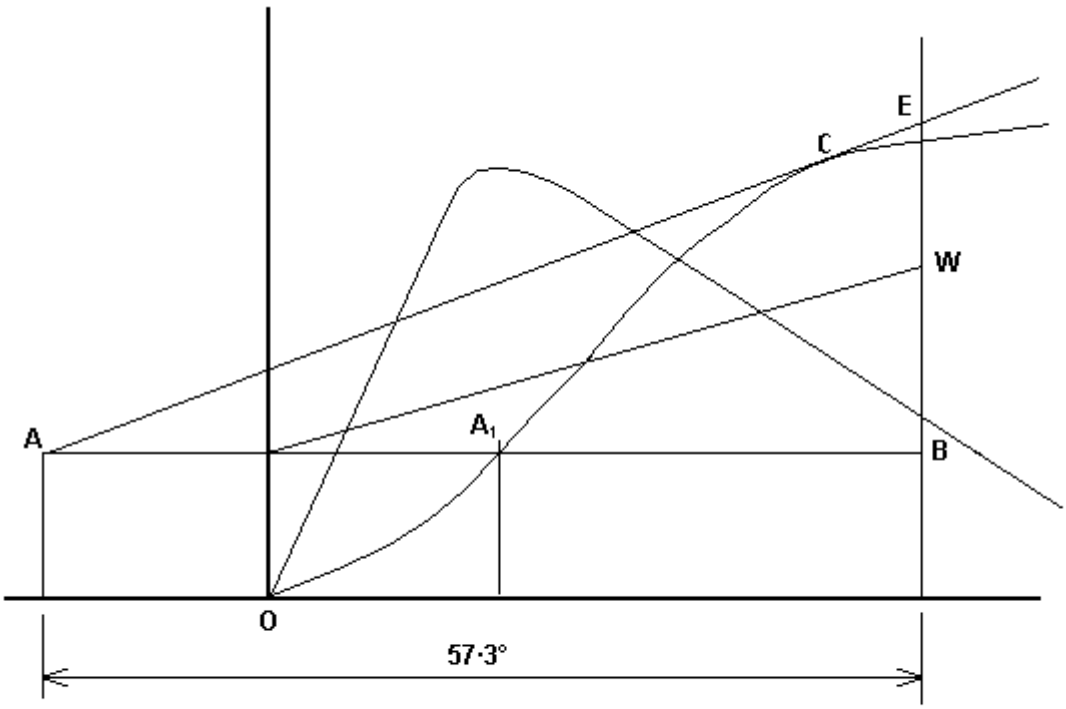


Fig. 5

(Amendment dated 4 March 1997)

SECTION 1

REPLACE THE DEFINITION of 'Depth' IN PART 2 BY THE FOLLOWING DEFINITION:

Depth— The moulded depth measured at the middle of the measured length from the base line to the top of the freeboard deck beams at the side of the vessel.

For the purposes of this definition, the base line is the line of the top of the keel where a plate keel is fitted. In the case of a timber or composite vessel, the top of the keel shall be read as a reference to the lower edge of the keel rabbet.

In the case of a vessel which has a bar keel or in which the form at the lower part of the midship section is of a hollow character, or thick garboards are fitted, the top of the keel shall be read as a reference to the point where the flat of bottom continued inwards cuts the side of the keel of the vessel.

In each case the base line shall be horizontal when extended transversely.

(Amendment dated 4 March 1997)

SECTION 1

REPLACE THE TEXT AND DIAGRAMS OF APPENDIX A FROM PAGES 10 TO 16 INCLUSIVE BY THE FOLLOWING TEXT AND DIAGRAMS

APPENDIX A

CLARIFICATION OF TERMS USED IN DEFINITION OF MEASURED LENGTH

(as referred to in Clause 4)

The following terms used in the definition of Measured Length should be interpreted as follows:

Fore part of the hull—The leading edge of the shell plating, planking or other structural material or, in the case of bar stems or stem posts, the intersection of the outside of the shell plating or planking with the stem bar or post but, in all cases, excluding any member added to the exterior of the hull, eg. fender, sponson, rubbing strip etc.

Foremost part of the hull—The most forward point of the vessel.

In all cases members added to the vessel and not forming part of the structure of the vessel shall be excluded, eg. fenders, pulpit rails, access door or ramp, sponson, rubbing strip, etc.

Bulwarks are to be taken as part of the vessel.

After part of the hull—The trailing edge of the shell plating, planking or other structural material, or in the case of stern bars or posts, the intersection of the outside of the shell plating or planking with the stern bar or post but, in all cases, members added to the exterior of the hull, shall be excluded, eg fender, sponson, rubbing strip, etc.

Aftermost part of the hull—The most aft point of the vessel.

In all cases members added to the vessel and not forming part of the structure of the vessel shall be excluded, eg. fender, sponson, rails, rubbing strip, etc.

Bulwarks are to be taken as part of the vessel.

Weathertight Deck—The uppermost complete deck (which may be stepped) exposed to the weather and sea that has permanent means of closing all openings in the part exposed to the weather and sea and below which all openings in the sides of the vessel are fitted with permanent means of watertight closing.

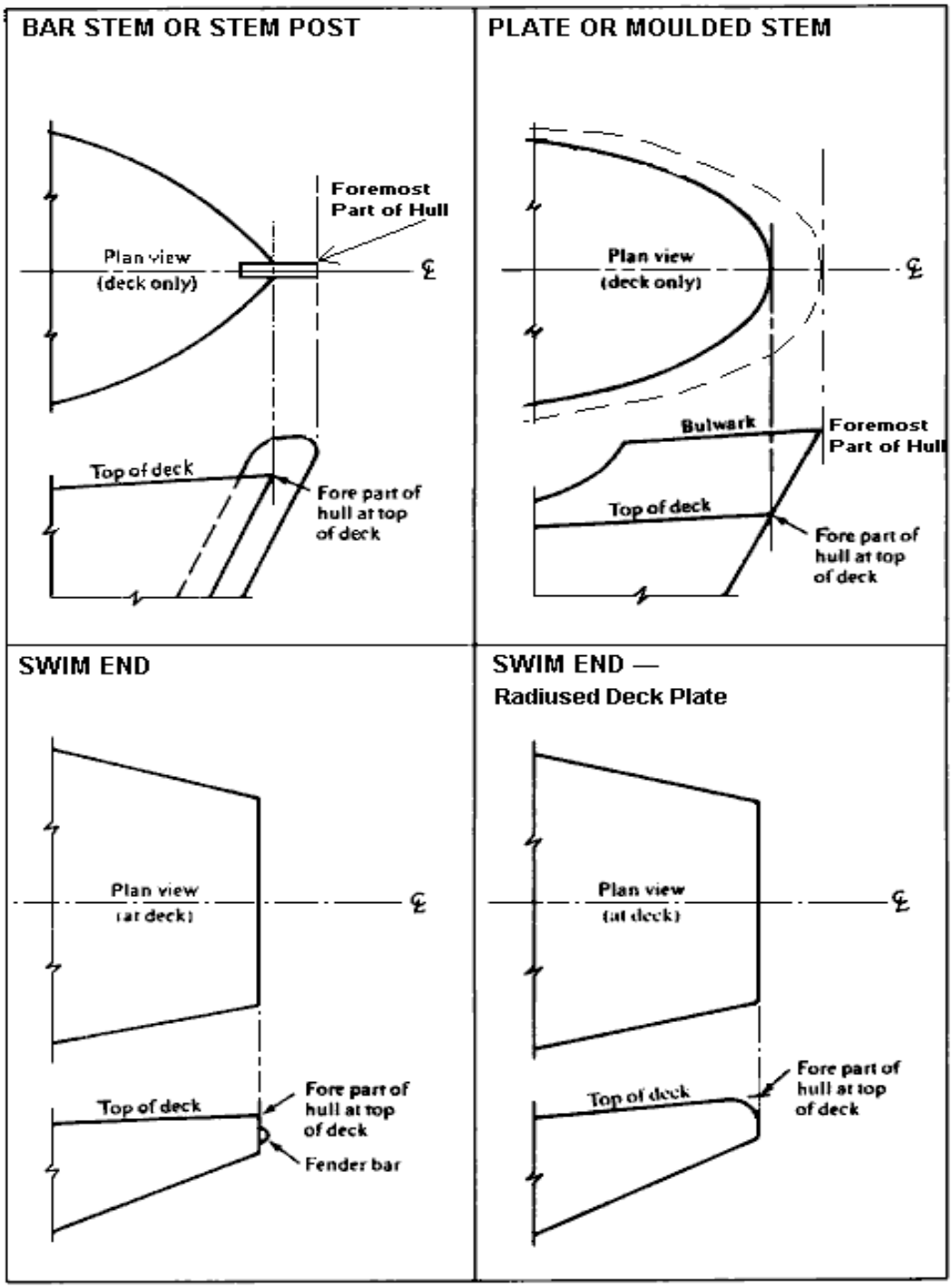
Height of gunwale—The vertical distance from the weather deck to the edge of the fore and aft member which is fitted around the inside of the vessel at the top of the side shell plating, planking or other structural material.

As a further guide to the interpretation of Measured Length reference should be made to the Guidance Diagrams included in this appendix.

Section 1

MEASURED LENGTH
GUIDANCE FOR MEASURING – SHEET 1

FORE PART OF HULL

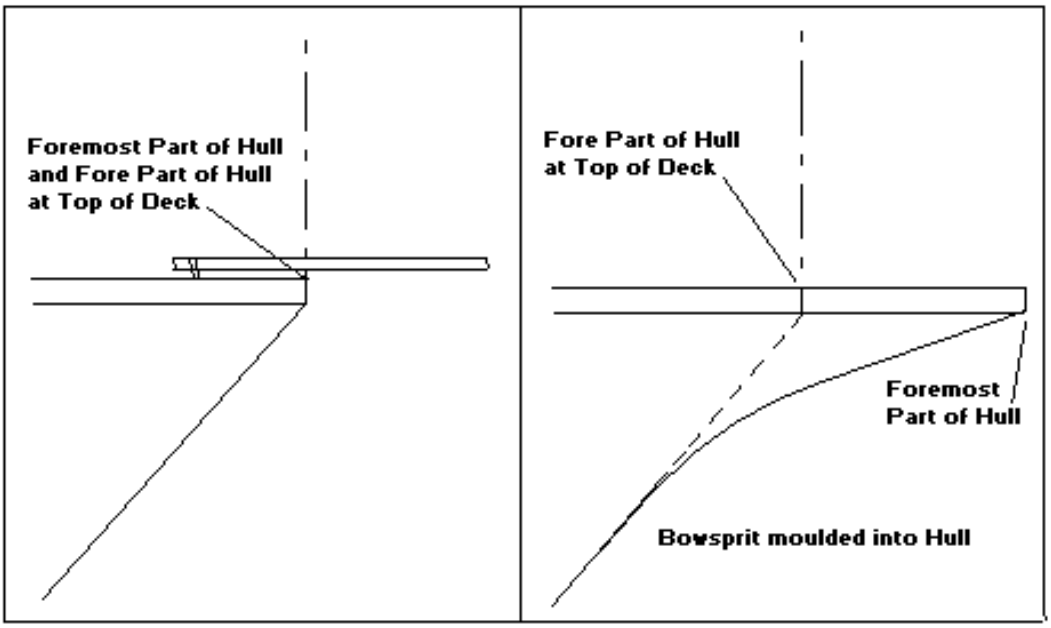


Section 1

MEASURED LENGTH

GUIDANCE FOR MEASURING – SHEET 2

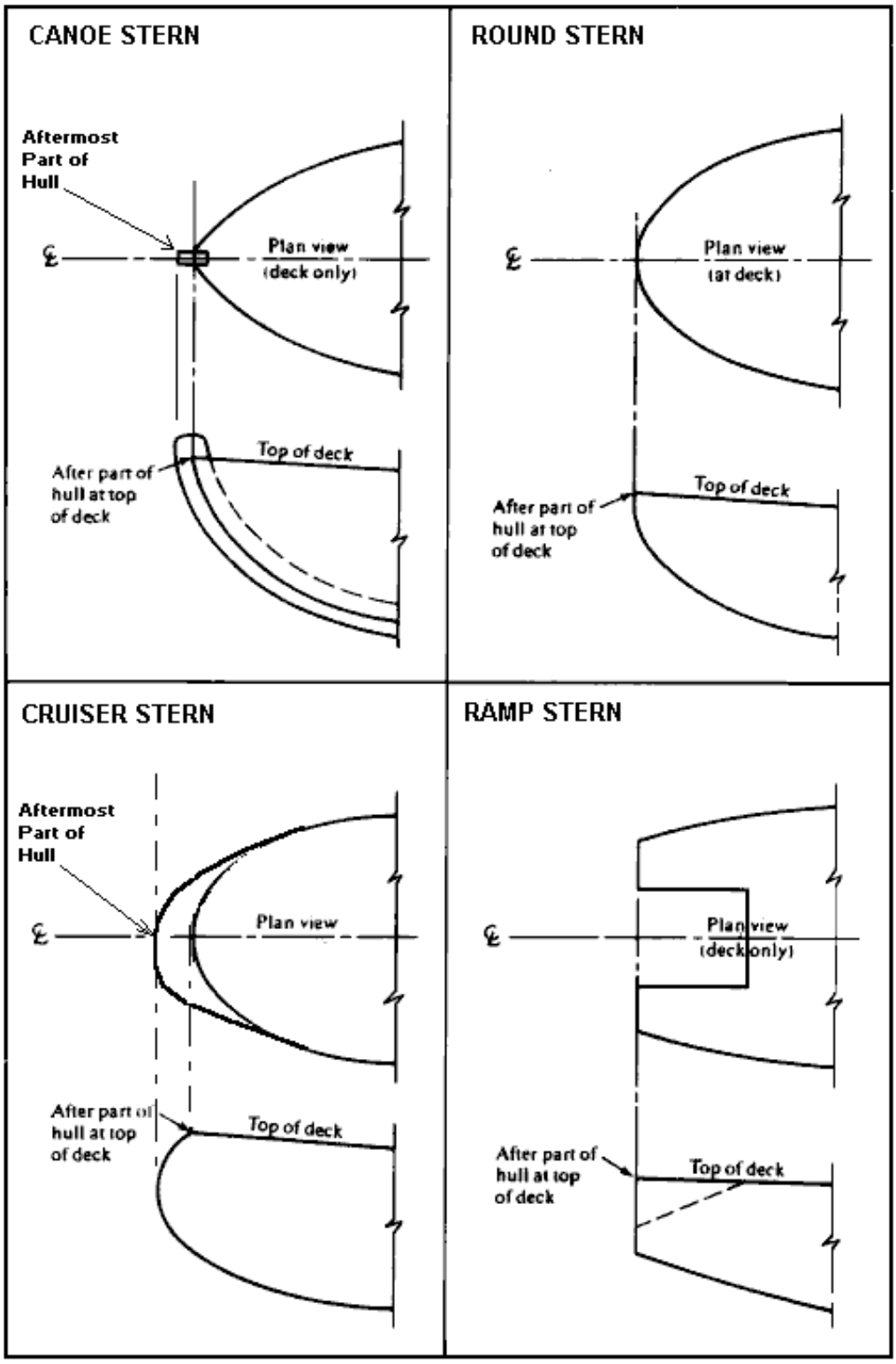
FORE PART OF HULL (Cont.)



Section 1

MEASURED LENGTH
GUIDANCE FOR MEASURING – SHEET 3

AFTER PART OF HULL

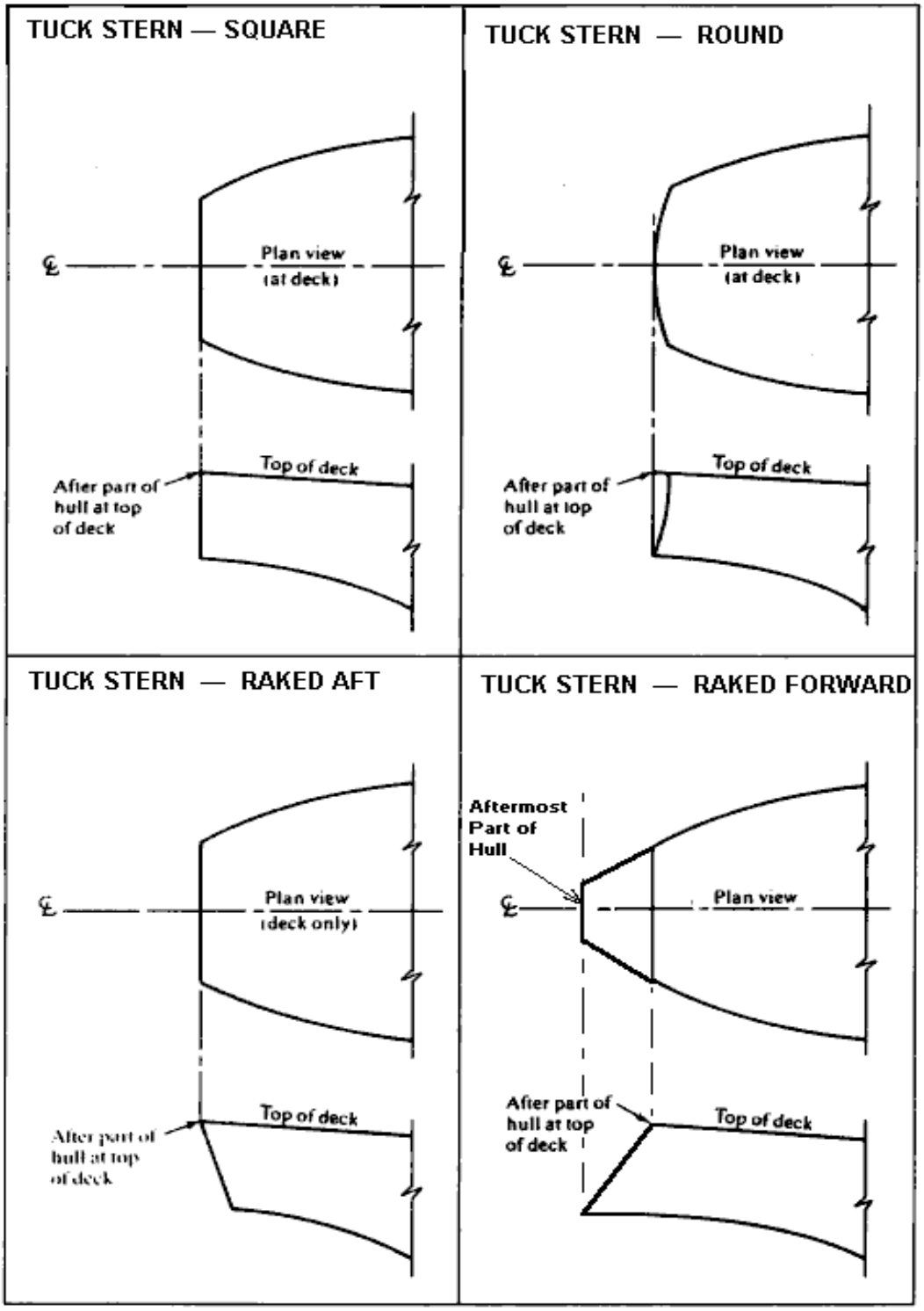


Section 1

MEASURED LENGTH

GUIDANCE FOR MEASURING – SHEET 4

AFTER PART OF HULL (Cont.)



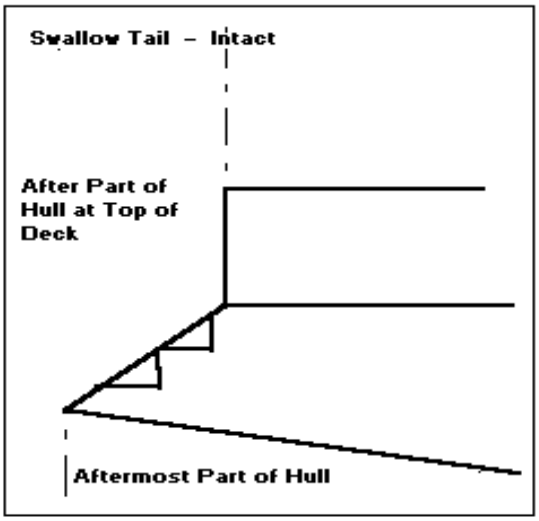
Note: SWIM ENDS—Measure as illustrated for Fore Part of Hull.

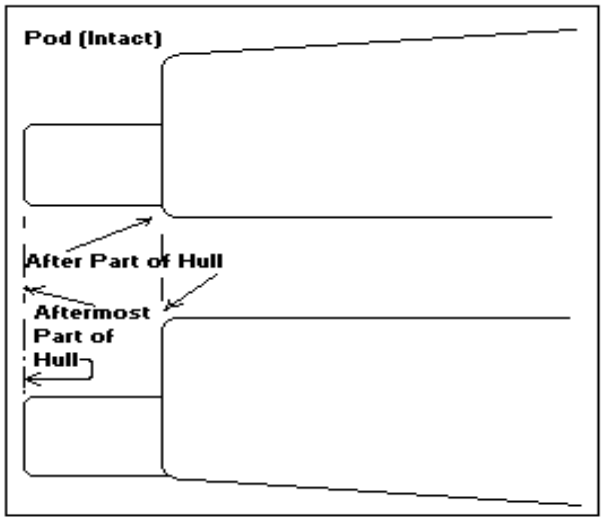
Section 1

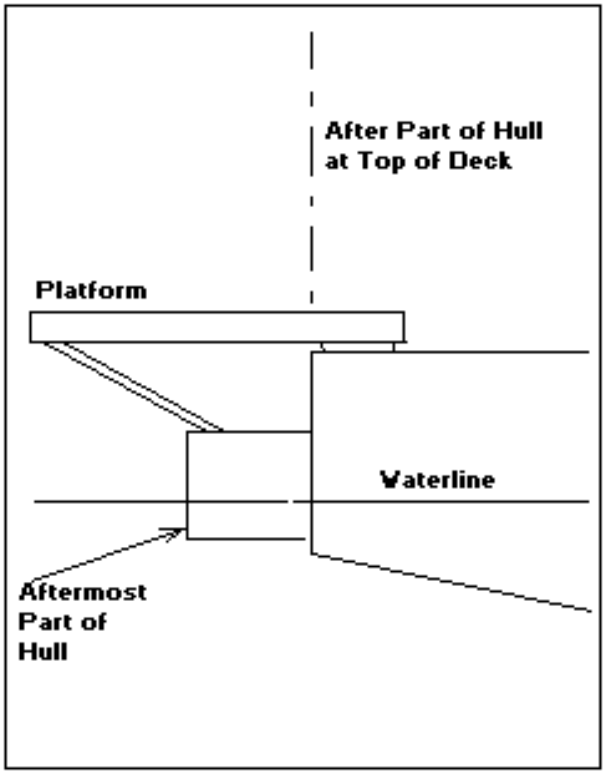
MEASURED LENGTH

GUIDANCE FOR MEASURING – SHEET 5

AFTER PART OF HULL (Cont.)

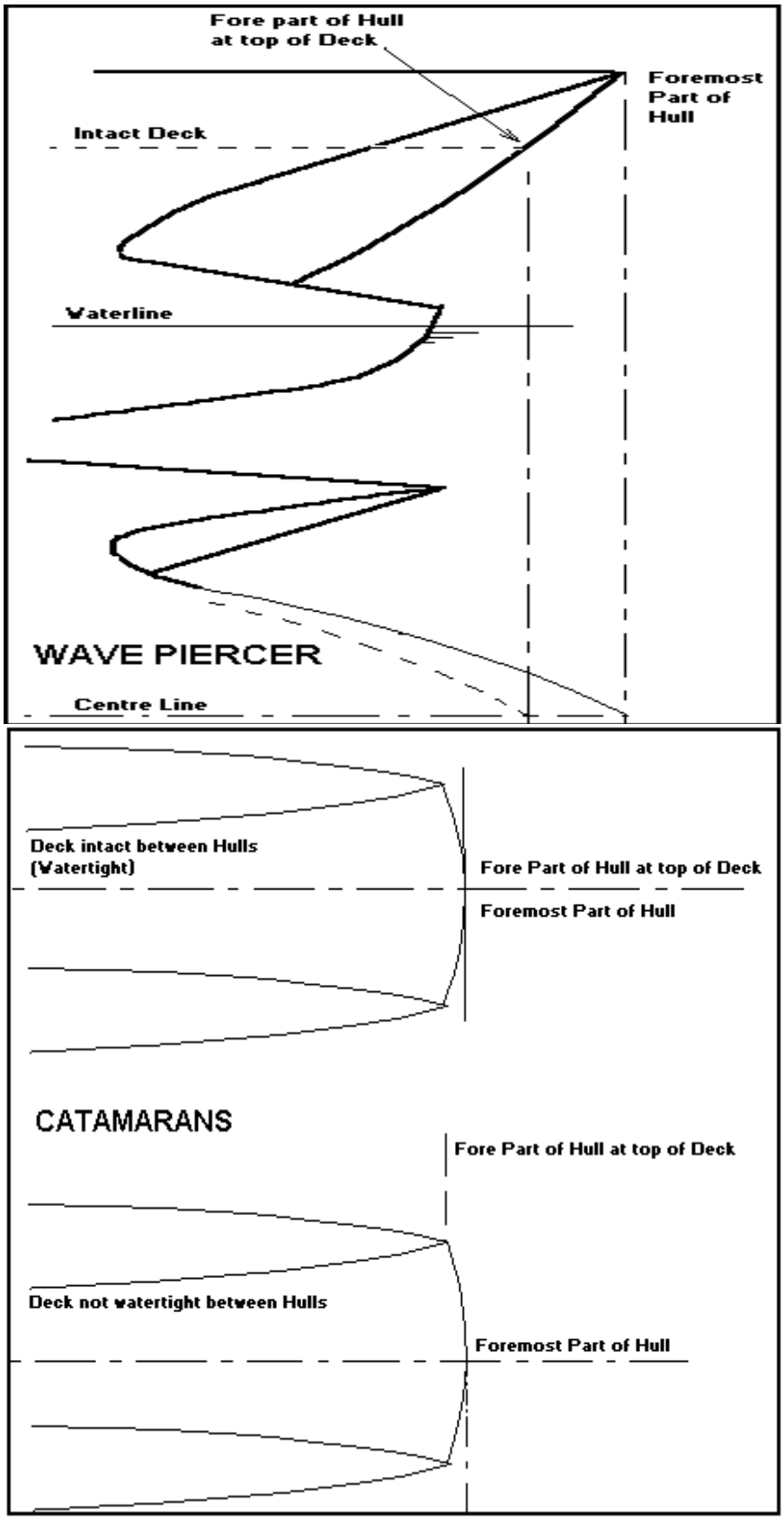






MEASURED LENGTH

GUIDANCE FOR MEASURING — SHEET 6



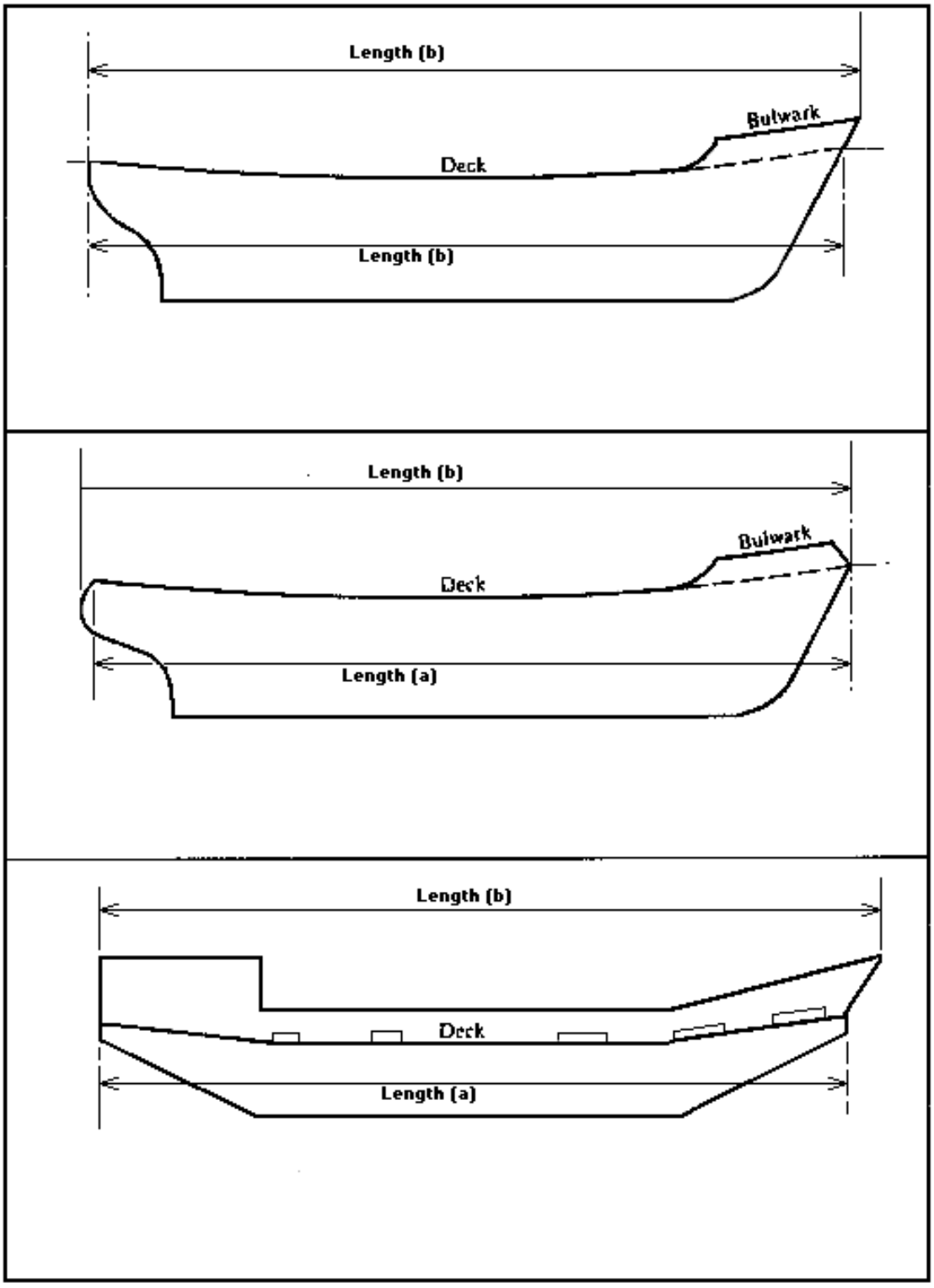
FOREPART OF HULL

Section 1

MEASURED LENGTH

GUIDANCE FOR MEASURING – SHEET 7

SINGLE DECK VESSELS

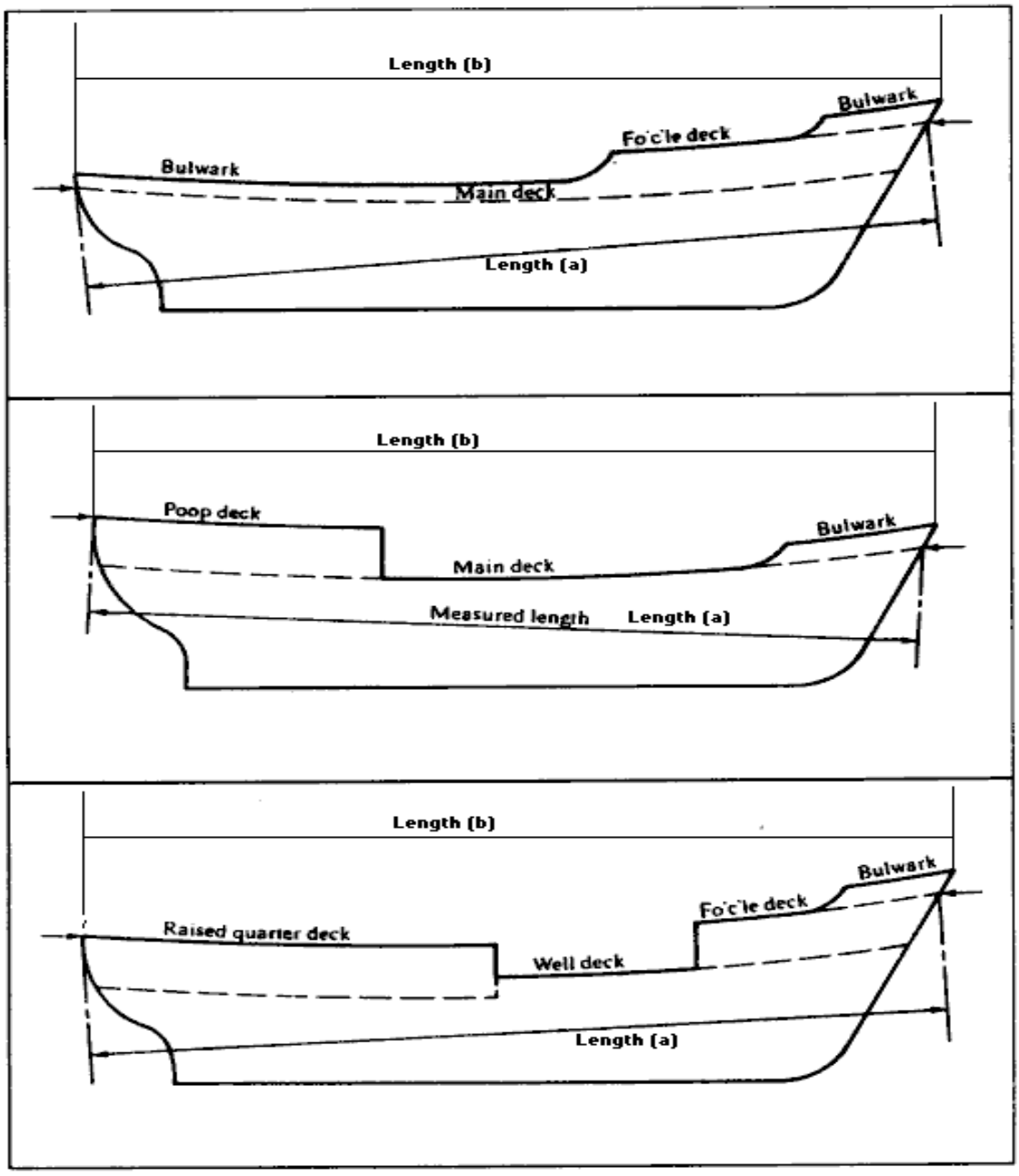


Measured Length is the greater of Length (a) and 96% of Length (b)

Section 1

MEASURED LENGTH
GUIDANCE FOR MEASURING – SHEET 8

MULTIPLE DECK VESSELS



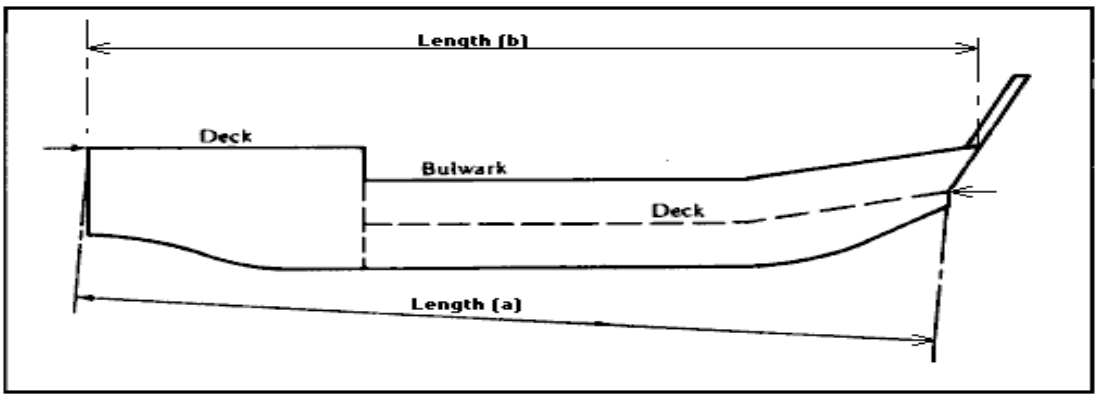
Measured Length is the greater of Length (a) and 96% of Length (b)

Section 1

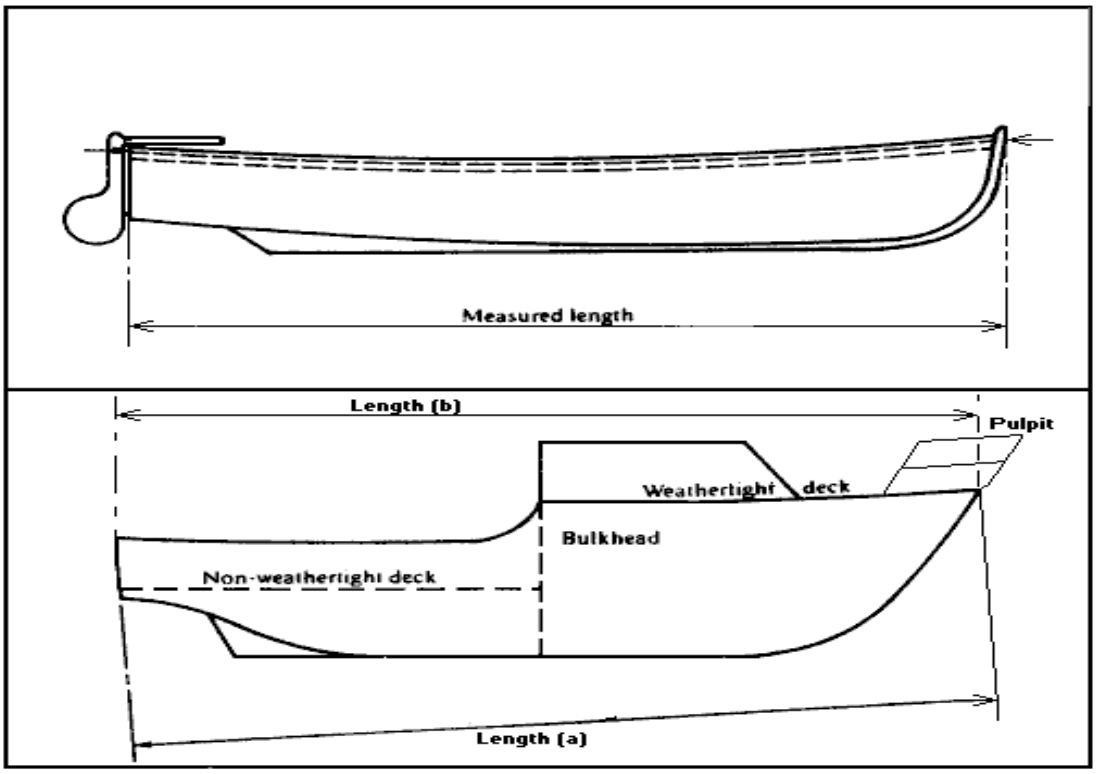
MEASURED LENGTH

GUIDANCE FOR MEASURING – SHEET 9

LANDING BARGES, ETC



OPEN VESSELS



Measured Length is the greater of Length (a) and 96% of Length (b)

(Amendment dated 4 March 1997)

SECTION 1

CONSEQUENTIAL AMENDMENT IN APPENDIX A AT PAGE 17: RENUMBER "SHEET 7" AS "SHEET 10".

[All other text on page 17 remains unchanged, other than the Amendment List number and amendment date which become "Amendment List No. 4" and "March 1997".]

(Amendment dated 4 March 1997)