The Equipment Rules of Sailing

for 2001 – 2004

January 2001

INTRODUCTION

The Equipment Rules of Sailing consists of three parts:

- Rules for use of the **boat** – the sports equipment used in sail racing – and **personal equipment**.
- Equipment definitions.
- The measurement rules.

The Equipment Rules are revised and published every four years by the International Sailing Federation – the international authority for the sport. This edition becomes effective on 1 March 2001. No changes are contemplated before 2004, but changes determined by the ISAF to be urgent will be made as needed and announced through MNAs.

STATUS

The ERS are adopted by ISAF as a code governing the use of equipment while racing. The ERS are made applicable as stated in Applicability, below:

Applicability

The ERS may be made applicable by:

a) Class Rules;

b) Adoption by a rating authority for racing under its jurisdiction;

c) Adoption in the notice of race and sailing instructions for an event;

d) Prescriptions of an MNA for racing under its jurisdiction

e) Other ISAF codes and rules adopted by Council.

Changes

The ERS may only be changed as follows:

a) Prescriptions of an MNA may change an ERS rule, for racing under its jurisdiction; and

b) Sailing instructions may change an ERS rule by referring specifically to it and stating the change, but may not change any portion of the ERS adopted in a class rule; and

c) A rating authority may change an ERS for racing within its jurisdiction.

These restrictions do not apply if rules are changed to develop or test proposed rules in local races. The MNA may prescribe that its approval is required for such changes.

Terminology

A term used in its defined sense is printed in "**bold**" type if defined in the ERS and in "*italic*" type if defined in the RRS.

Abbreviations

ISAF	International Sailing Federation
MNA	ISAF Member National Authority
ICA	International Class Association
NCA	National Class Association
ERS	The Equipment Rules of Sailing
RRS	The Racing Rules of Sailing

PART I – USE OF EQUIPMENT

Section A – During an Event

A.1 CLASS RULES

A.1.1 Boats without Class Rules

The **boat** and other items of equipment shall comply with the ERS Part I.

A.1.2 Boats with Class Rules

The **boat** and other items of equipment shall comply with its **class rules**, and the ERS Part I except as changed by its **class rules** to the extent permitted by Changes (c).

A.2 CERTIFICATE

A.2.1 Having a Certificate

The **boat** shall have such valid **certificate** as required by its **class rules** or the **certification authority**.

A.2.2 Compliance with a Certificate

The **boat** shall comply with its **certificate**.

See also RRS rule 78 Compliance with Class Rules: Certificates.

A.3 IDENTIFICATION ON SAILS

See RRS rule 77 Identification on Sails.

A.4 ADVERTISING

See RRS Appendix Part II, 2 Advertising Code.

A.5 SKIN FRICTION

See RRS rule 53 Skin Friction.

A.6 EVENT MEASUREMENT

See RRS rule 78 Compliance with Class Rules; Certificates

Section B – When Racing

B.1 PERSONAL BUOYANCY AND LIFE-SAVING EQUIPMENT

See RRS rule 1 Safety and RRS rule 40 Personal Buoyancy.

B.2 PERSONAL EQUIPMENT

See RRS rule 43 Competitor Clothing and Equipment.

B.3 LIMITATIONS ON EQUIPMENT

See RRS rule 47 Limitations on Equipment and Crew.

B.4 LIMITATIONS ON CREW AND CREW POSITION

See RRS rule 47 Limitations on Equipment and Crew and RRS rule 49 Crew Position.

B.5 MANUAL POWER

See RRS rule 52 Manual Power.

B.6 EJECTING OR RELEASING OF SUBSTANCE

See RRS rule 53 Skin Friction.

B.7 SETTING OF SPARS

B.7.1 Mainsail, Foresail and Mizzen Booms set on a Mast

The extension of the upper edge of the boom **spar** shall intersect the mast **spar** above the **lower limit mark**, with the boom on the mast **spar** centreplane and at 90° to the mast **spar**.

B.7.2 Headsail Booms

The fore end of the boom **spar** shall be approximately on the **boat** centreplane.

B.7.3 Spinnaker and Whisker Poles

See RRS rule 50 Setting and Sheeting Sails.

B.7.4 Bowsprits

The **inner limit mark** shall not be outboard the **hull** when the **bowsprit** is set.

B.8 SETTING OF RIGGING

B.8.1 Forestays

See RRS rule 54 Forestays and Headsail Tacks.

B.9 SETTING, SHEETING AND CHANGING SAILS

B.9.1 Trilateral Mainsails. Foresails and Mizzens

(a) The **sail** shall be below the mast **upper limit mark**.

(b) The **leech**, extended as necessary, shall intersect the upper edge of the boom **spar** forward of the **outer limit mark**.

(c) The **foot** of a loose footed sail, extended as necessary, shall intersect the mast **spar** above the **lower limit mark**.

B.9.2 Headsails

The **tack** of any headsail set on a **bowsprit** shall be attached aft of the **outer limit mark**.

See RRS rule 54 Forestays and Headsail Tacks.

B.9.3 Spinnaker Staysails and Mizzen Staysails

The **tack** shall be inboard the **sheerline**.

See also RRS rule 50 Setting and Sheeting Sails.

B.10 CENTRE OF GRAVITY

B.10.1 **Corrector weights** shall be securely fixed.

See also RRS rule 51 Moving Ballast.

B.11 ANCHORING, MAKING FAST AND HAULING OUT

See RRS rule 45 Hauling Out; Making Fast; Anchoring.

B.12 FOG SIGNALS AND LIGHTS

See RRS rule 48 Fog Signals and Lights.

PART II – DEFINITIONS

Section C – General Definitions

C.1 PERSONAL TERMS

C.1.1 Crew

A competitor, or team of competitors, that operates a **boat**.

C.1.2 Skipper

The **crew** member onboard who is in charge of the **boat** and the **crew** and all other persons aboard.

C.1.3 Personal Equipment

All personal effects carried or worn and items worn on board to keep warm and/or dry, and/or to protect the body, **personal buoyancy**, safety harnesses and hiking aids worn to keep the person aboard or afloat.

C.1.4 Personal Buoyancy

A device worn around the upper part of the torso capable of keeping a person afloat.

C.2 BOAT TERMS

C.2.1 Boat

The sports equipment used by the **crew** to take part in a race. It comprises the **hull(s)**, **hull appendages**, **ballast**, **rig**, **sails** and associated fittings and all other items of sports equipment used, excluding consumables and **personal equipment**.

C.2.2 Sailboard

A **boat**.

C.2.3 Major Axes

The three major axes of the **boat** at 90° to each other – vertical, longitudinal and transverse – shall be related to the designed waterline and the **hull** centreplane.

C.2.4 Boat Length

The longitudinal distance between the aftermost point and the foremost point on the **boat** with **sails** and **spars** set as appropriate.

C.2.5 Ballast

Weight installed to influence the stability, flotation or total weight of the **boat**. It can be of any material and positioned anywhere in the **boat**.

C.2.6 Corrector Weight

Weight installed in accordance with the **class rules** to correct deficiency in weight and/or its distribution.

C.2.7 Limit Mark

A clearly visible mark of a single colour contrasting to the part(s) on which it is placed indicating a measurement point.

C.2.8 Event Limitation Mark

A mark placed by a race committee on equipment whose replacement at the event is controlled by the **class rules**.

C.3 RULES

C.3.1 Class Rules

The rules that specify the **boat** as it shall be used for racing.

C.3.2 Closed Class Rules

Class rules where anything not specifically permitted by the **class rules** is prohibited.

C.3.3 Open Class Rules

Class rules where anything not specifically prohibited by the **class rules** is permitted.

C.4 MEASUREMENT AND MEASURERS

C.4.1 Fundamental Measurement

Measurement required to ensure compliance with the **class rules**.

C.4.2 Event Measurement

Measurement carried out in accordance with RRS Appendix J 2.2(10).

C.4.3 Official Measurer

A measurer appointed, or recognised, by the MNA of the country where the measurement takes place, to carry out **fundamental measurement**.

C.4.4 Event Measurer

A measurer appointed by a race committee.

C.4.5 International Measurer

A measurer appointed by ISAF to act as **event measurer** at international events and to measure prototype **boats**.

C.5 CERTIFICATION

C.5.1 Certification Authority

For the **hull**, the ISAF, the MNA of the owner, or their delegates. For other items, the ISAF, the MNA in the country where the **certification** shall take place, or their delegates.

C.5.2 Certify

To issue a **certificate**, or to attach a **certification mark** after successful **fundamental measurement**.

C.5.3 Certificate

Documentary proof, issued by the **certification authority,** of successful **fundamental measurement** of the **hull**, or any other parts required by the **class rules** or a **certification authority**.

C.5.4 Certification Mark

Proof of successful **fundamental measurement** of parts requiring a **certification mark**, attached or made by an **official measurer**.

Section D – Hull Definitions

D.1 TERMS

D.1.1 Hull

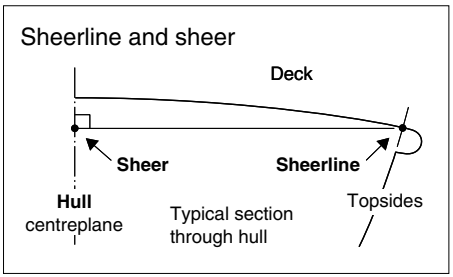
The shell including any transom, the deck including any superstructure, the internal structure including any cockpit, the fittings associated with these parts and any **corrector weights**.

D.1.2 Sheerline

The line formed by the intersection of the top of the deck and the outside of the **hull** shell, each extended as necessary.

D.1.3 Sheer

The projection of the **sheerline** on the centreplane.



D.2 MEASUREMENT POINTS

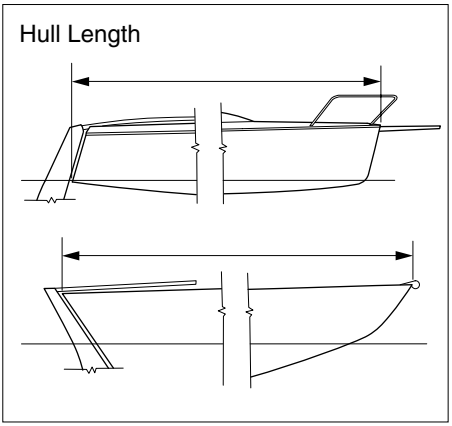
D.2.1 Hull Datum Point

The point on the **hull** centreplane specified in the **class rules** from which **hull** measurements are taken.

D.3 DIMENSIONS

D.3.1 Hull Length

The longitudinal distance between the aftermost point and the foremost point on the **hull**(**s**), excluding fittings.



D.4 WEIGHT

D.4.1 Hull Weight

The weight of the **hull**.

Section E – Hull Appendage Definitions

E.1 TERMS

E.1.1 Hull Appendage

Any item of equipment – including the items listed at E.1.2 to E.1.13 – which is

wholly or partly below the **sheerline** or its extension when fixed or when fully exposed if retractable,

attached to the **hull** shell or another **hull appendage**, and

used to affect stability, leeway and/or steerage.

Any **corrector weights**, integral **ballast** and/or associated fittings shall be included in the **hull appendage**.

E.1.2 Keel

A fixed **hull appendage**, attached approximately on the **hull** centreplane, primarily used to affect stability and leeway.

E.1.3 Bilge Keel

A fixed **hull appendage**, attached off the **hull** centreplane, primarily used to affect stability and leeway.

E.1.4 Fin

A fixed **hull appendage** primarily used to affect leeway or directional control.

E.1.5 Bulb

A fixed **hull appendage** containing **ballast** at the bottom of an another **hull appendage** primarily used to affect stability.

E.1.6 Skeg

A **fin** attached immediately in front of a **rudder**.

E.1.7 Centreboard

A retractable **hull appendage**, attached approximately on the **hull** centreplane and rotating about a single transverse axis which may move in relation to the **hull**, primarily used to affect leeway.

E.1.8 Daggerboard

A retractable **hull appendage**, attached approximately on the **hull** centreplane and not rotating, primarily used to affect leeway.

E.1.9 Bilgeboard

A retractable **hull appendage**, attached off the **hull** centreplane, primarily used to affect leeway.

E.1.10 Rudder

A movable **hull appendage** primarily used to affect steerage.

E.1.11 Trim Tab

When a **rudder**(s) is used, a movable **hull appendage**, attached at the aft, or fore, edge of another **hull appendage**.

Section F – Rig Definitions

Definitions relating to:

"BOOM" also apply to "GAFF" and "SPRIT"

"SPINNAKER POLE/ WHISKER POLE" also apply to "JOCKEY POLE"

"BOWSPRIT" also apply to "BUMPKIN"

F.1 GENERAL TERMS

F.1.1 Rig

The **spars**, **spreaders**, **rigging**, fittings and any **corrector weights**.

F.1.2 Spar

The main structural part(s) of the **rig**, to, or from, which **sails** are attached and/or supported.

F.1.3 Spreader

Any equipment attached at one or both ends to **spars**, **sails** or other **rigging** and capable of working in compression.

F.1.4 Rigging

Any equipment attached at one or both ends to **spars**, **sails** or other **rigging** and capable of working in tension only.

F.2 LIMIT MARK DIMENSIONS

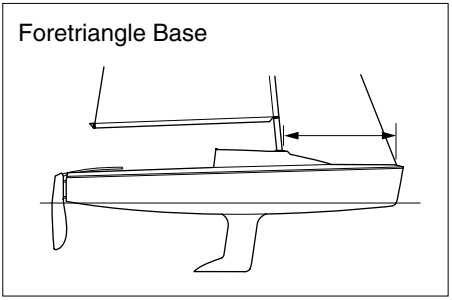
F.2.1 Limit Mark Width

The minimum width measured in the length direction of the **spar**.

F.3 FORETRIANGLE DIMENSIONS

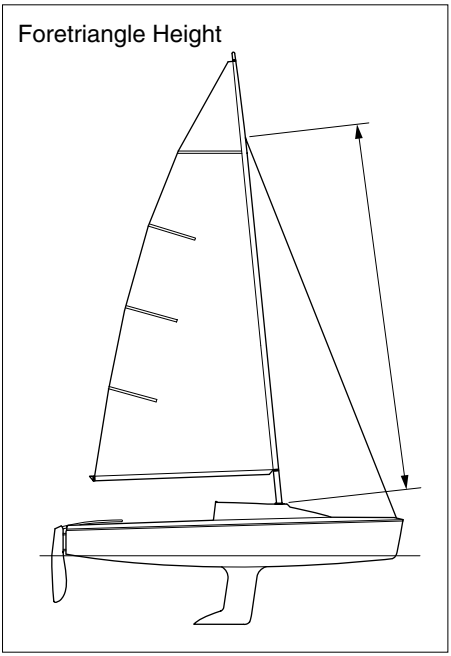
F.3.1 Foretriangle Base

The longitudinal distance between the intersection of the fore side of the mast **spar**, extended as necessary, and the deck including any super-structure, and the intersection of the centreline of the forestay, extended as necessary, and the deck, or bowsprit **spar**.



F.3.2 Foretriangle Height

The distance between the intersection of fore side of the mast **spar**, extended as necessary, and the deck including any super-structure, and the forestay **rigging point**.



F.4 MAST TERMS

F.4.1 Mast

The **spar**, its **rigging**, **spreaders**, fittings and any **corrector weights**, excluding any fittings that are not essen-tial to the function of the mast as part of the **rig**.

F.5 MAST MEASUREMENT POINTS

F.5.1 Mast Datum Point

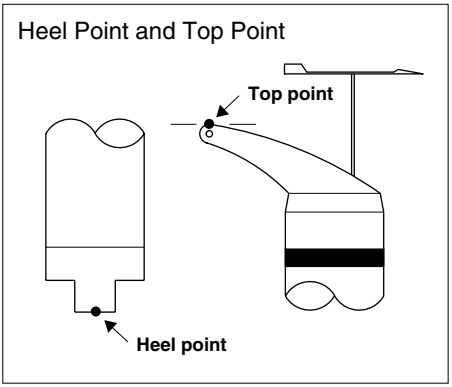
The point on the **mast** specified in the **class rules** used as a datum for measurement.

F.5.2 Heel Point

The lowest point on the **spar** and its fittings.

F.5.3 Top Point

The highest point on the **spar** and its fittings.



F.5.4 Lower Point

The highest point of the **lower limit mark** at the aft edge of the **spar**.

F.5.5 Upper Point

The lowest point of the **upper limit mark** at the aft edge of the **spar**.

F.6 MAST SAIL LIMIT MARKS

F.6.1 Lower Limit Mark

The **limit mark** for the setting of the boom **spar** or the mainsail.

F.6.2 Upper Limit Mark

The **limit mark** for the setting of the mainsail.

F.7 MASS DIMENSIONS

F.7.1 Mast Length

The distance between the **heel point** and the **top point**.

F.7.2 Lower Point Height

The distance between the **mast datum point** and the **lower point**.

F.7.3 Upper Point Height

The distance between the **mast datum point** and the **upper point**.

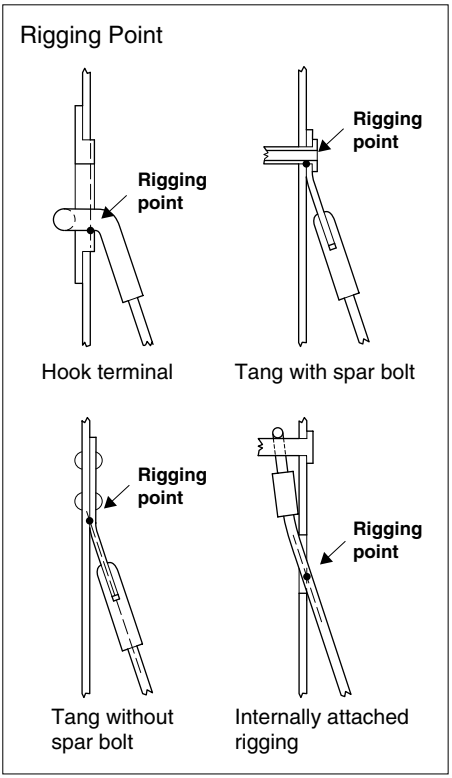
F.7.4 Rigging Point

When **rigging** is attached:

BY A HOOK TERMINAL: The lowest point of the hook where it intersects the **spar**, extended if necessary.

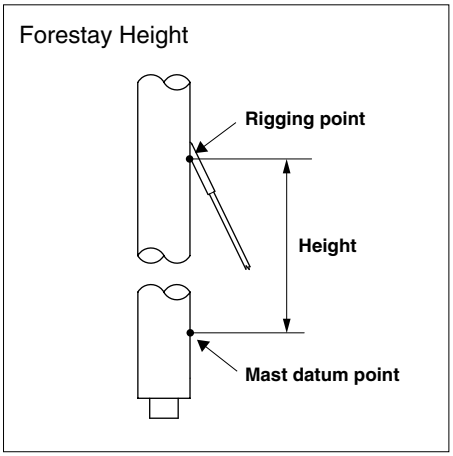
BY A TANG: The lowest point of the **spar** bolt where it intersects the **spar**.

IN OTHER WAYS: The intersection of the outside of the **spar**, extended if necessary, and the centreline of the **rigging**.



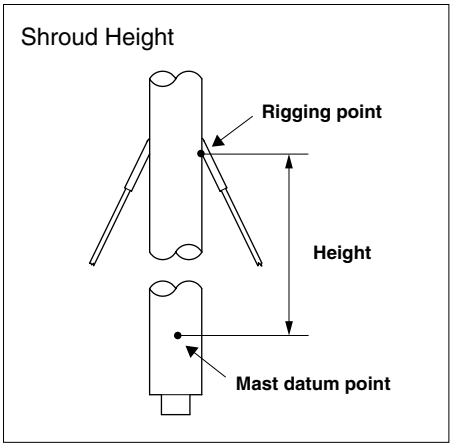
F.7.5 Forestay Height

The distance between the **mast datum point** and the **rigging point**.



F.7.6 Shroud Height

The distance between the **mast datum point** and the **rigging point**.



F.7.7 Back Stay Height

The distance between the **mast datum point** and the **rigging point** or the **top point** whichever is the lowest.

F.7.8 Check Stay Height

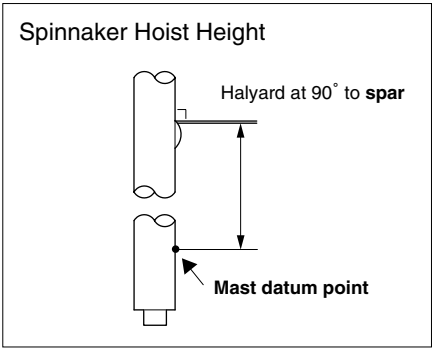
The distance between the **mast datum point** and the **rigging point**.

F.7.9 Trapeze Height

The distance between the **mast datum point** and the **rigging point**.

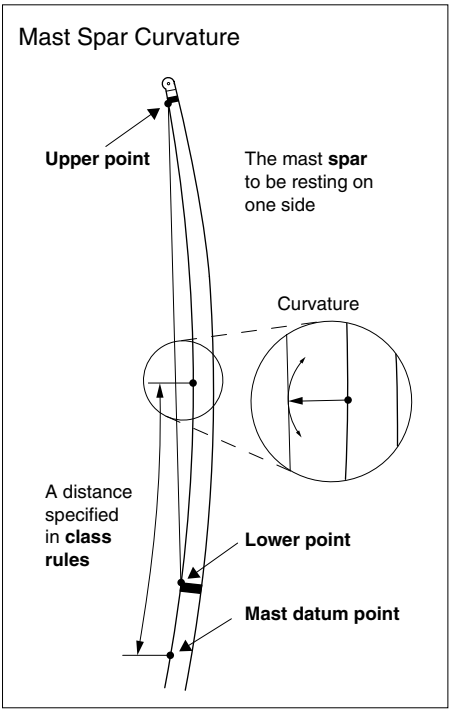
F.7.10 Spinnaker Hoist Height

The distance between the **mast datum point** and the intersection of the **spar** and the lower edge of the spinnaker halyard, when at 90° to the **spar** and extended as necessary.



F.7.11 Mast Spar Curvature

The shortest distance between the aft edge of the **spar** and a straight line between the **upper point** and the **lower point** at a specified distance from the **heel point** when the **spar** is resting on one side.

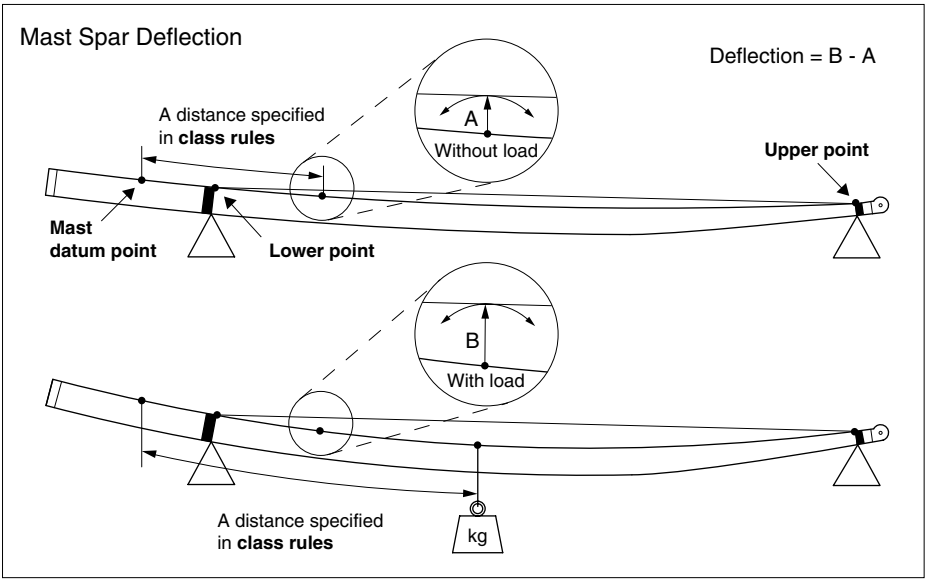


F.7.12 Mast Spar Deflection

The difference in the shortest distance between the **spar**, at a specified distance from the **mast datum point**, to a straight line between the **upper point** and the **lower point** when the **spar** is supported horizontally at these points, with and without a specified load at a specified distance from the **mast datum point**.

(a) FORE-AND-AFT: Measured with the aft edge up.

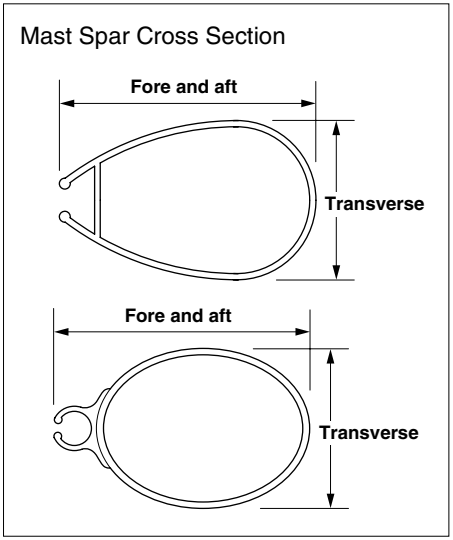
(b) TRANSVERSE: Measured with the one side up.



F.7.13 Mast Spar Cross Section

(a) FORE-AND-AFT: The fore-and-aft dimension, including any **sail** track, at a specified distance from the **mast datum point**.

(b) TRANSVERSE: The transverse dimension, at a specified distance from the **mast datum point**.



F.7.14 Spar Weight

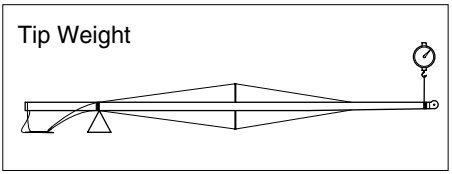
The weight of the **spar** including fittings and **corrector weights**.

F.7.15 Mast Weight

The weight of the **mast**.

F.7.16 Tip Weight

The weight of the **mast** measured at the **upper point** when the **spar** is supported at the **lower point**.

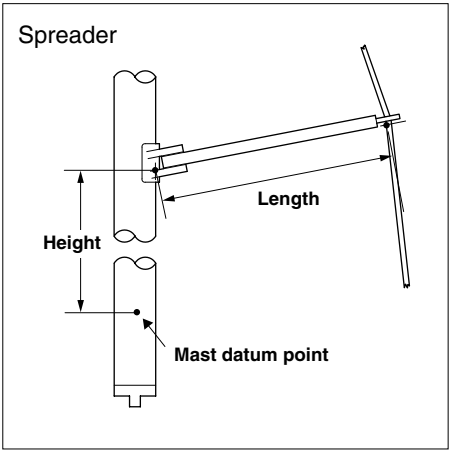


F.8 MAST FITTINGS

F.8.1 Spreader

(a) LENGTH: The distance between the inner edge of the shroud at the lower edge of the **spreader** and the intersection of the lower edge of the **spreader**, extended as necessary, and the **spar**.

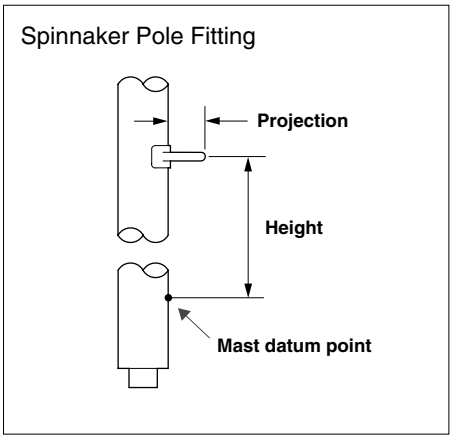
(b) HEIGHT: The distance between **mast datum point** and the intersection of the lower edge of the **spreader**, extended as necessary, and the **spar**.



F.8.2 Spinnaker Pole Fitting

(a) HEIGHT: The distance between the **mast datum point** and the centre of the bearing part of the fitting.

(b) PROJECTION: The shortest distance between the outermost point of the fitting and the **spar**.



F.9 BOOM TERMS

F.9.1 Boom

The **spar**, its **rigging**, fittings and any **corrector weights**, but excluding sheets, sheet blocks and kicking strap/strut arrangement.

F.10 BOOM MEASUREMENT POINTS

F.10.1 Outer Point

The point on the boom **outer limit mark**, at the upper edge of the **spar**, nearest the fore end of the **spar**.

F.11 BOOM SAIL LIMIT MARKS

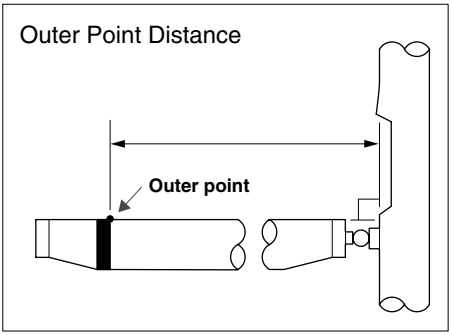
F.11.1 Outer Limit Mark

The **limit mark** for the setting of the mainsail.

F.12 BOOM DIMENSIONS

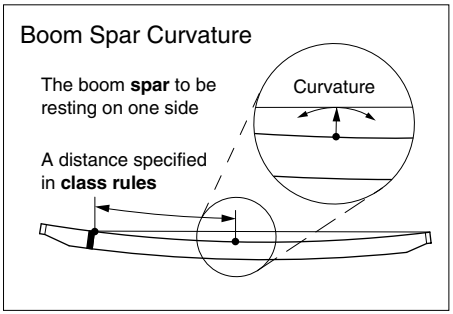
F.12.1 Outer Point Distance

The distance between the **outer point** and the aft edge of the mast **spar**, with the boom **spar** on the mast **spar** centreplane and at 90° to the mast **spar**.



F.12.2 Boom Spar Curvature

The shortest distance between the top edge of the **spar** and a straight line between the **outer point** and the top of the fore end of the **spar** at a specified distance from the **outer point**, when the **spar** is resting on one side.



F.12.3 Boom Spar Deflection

The difference in the shortest distance between the **spar** at a specified distance from the **outer point** to a straight line between the **outer point** and the top of the fore end of the **spar** when the **spar** is supported horizontally at these points, with and without a specified load at a distance from the **outer point**.

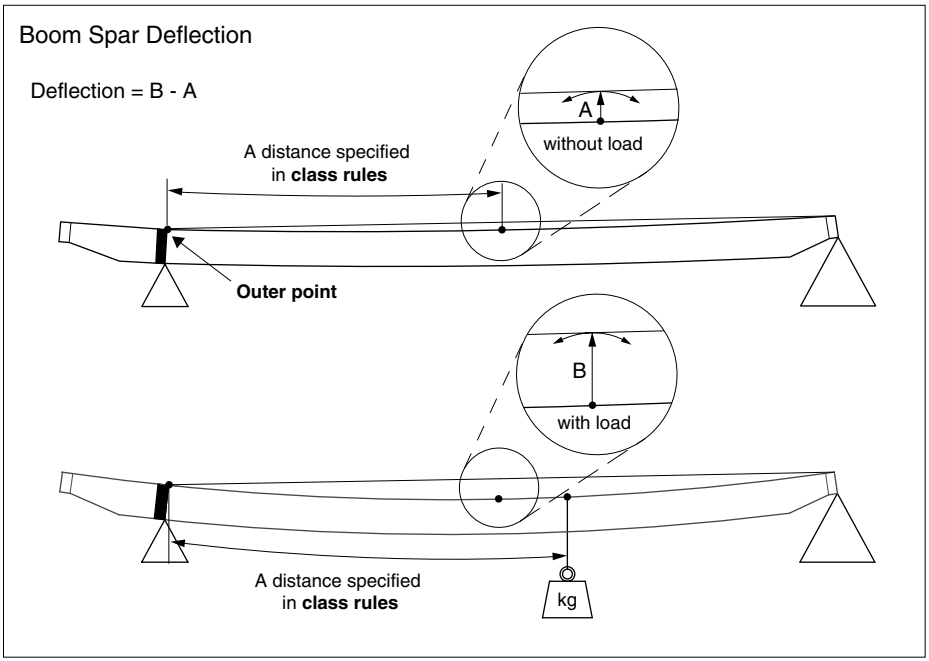
(a) VERTICAL: Measured with the top edge up.

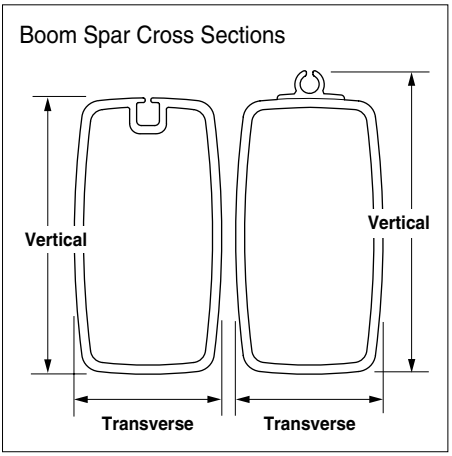
(b) TRANSVERSE: Measured with one side up.

F.12.4 Boom Spar Cross Section

(a) VERTICAL: The vertical dimension, including any **sail** track, at a specified distance from the **outer point**.

(b) TRANSVERSE: The transverse dimension at a specified distance from the **outer point**.





F.12.5 Boom Weight

The weight of the **boom**.

F.13 SPINNAKER/WHISKER POLE TERMS

F.13.1 Spinnaker/Whisker Pole

The **spar**, its fittings, bridle arrangement(s), end fitting control lines and any **corrector weights**.

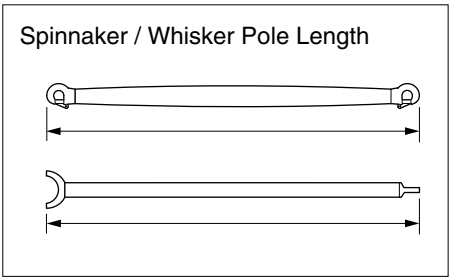
F.14 SPINNAKER/WHISKER POLE DIMENSIONS

F.14.1 Spinnaker/Whisker Pole Length

The distance between the ends of the **spinnaker**/**whisker pole**.

F.14.2 Spinnaker/Whisker Pole Spar Cross Section

The sectional dimensions at specified distances from an end of the **spinnaker**/**whisker pole**.



F.14.3 Spinnaker/Whisker Pole Weight

The weight of the **spinnaker**/**whisker pole**.

F.15 BOWSPRIT TERMS

F.15.1 Bowsprit

The **spar**, fittings and any **corrector weights**.

F.16 BOWSPRIT MEASUREMENT POINTS

F.16.1 Bowsprit Point

The point of the bowsprit **limit mark** nearest to the outboard end of the **bowsprit**.

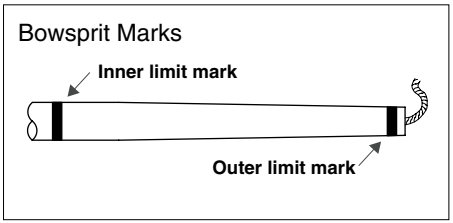
F.17 BOWSPRIT LIMIT MARKS

F.17.1 Inner Limit Mark

The **limit mark** for the setting of the bowsprit **spar**.

F.17.2 Outer Limit Mark

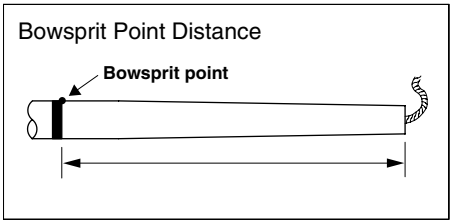
The **limit mark** for the setting of headsails.



F.18 BOWSPRIT DIMENSIONS

F.18.1 Bowsprit Point Distance

The distance between the **bowsprit point** and the outboard end of the **bowsprit**.



F.18.2 Bowsprit Spar Cross Section

The sectional dimensions at specified distances from the outboard end of the **bowsprit**.

F.18.3 Bowsprit Weight

The weight of the **bowsprit**.

Section G – Sail Definitions

Subsection A – Trilateral Sails

Definitions relating to:

"MAINSAIL" also apply to "FORESAIL" and "MIZZEN"

"HEADSAIL" also apply to "JIB", "GENOA", "GENNAKER" and "STAYSAIL".

G.1 GENERAL SAIL TERMS

G.1.1 Sail

An item of equipment attached to the **rig**, used to propel the **boat**.

The **sail** includes **sail reinforcements**, **batten pockets**, **windows**, **stiffening**, **tablings**, **attachments**, identification marks, advertising and additional parts as permitted by **class rules**.

G.1.2 Body of the Sail

The **sail** excluding the areas of added parts as in G.1.1.

G.1.3 Ply

A sheet of **sail** material.

G.1.4 Soft Sail

A **sail** where the **body of the sail** is capable of being folded flat in any direction without damaging any **ply** other than by creasing.

G.1.5 Woven Ply

A **ply** which, when torn, can be separated into fibres without leaving evidence of a film.

G.1.6 Laminated Ply

A **ply** made up of more than one layer.

G.1.7 Single-Ply Sail

A **sail**, except at **seams**, where all parts of the **body of the sail** consist of only one **ply**.

G.1.8 Double Luff Sail

A **sail** with more than one **luff**, or a **sail** passing around a stay or spar and attached back on itself.

G.1.9 Seam

Overlap where two or more **ply** forming the **body of the sail** are joined.

G.1.10 Tabling

Additional **ply** or folded **ply** overlap(s) at a **sail edge**.

G.1.11 Batten Pocket

Additional **ply** to form a pocket for a batten.

G.1.12 Sail Opening

Any opening other than openings created by **attachments**.

G.1.13 Window

A **sail opening** covered by a transparent **ply**.

G.1.14 Stiffening

Corner boards and battens.

G.1.15 Attachments

Bolt ropes, cringles, adjustment eyes, reefing eyes, reefing points, hanks, slides, blocks and their fastenings.

G.2 SAIL EDGES

G.2.1 Foot

The bottom edge.

G.2.2 Leech

(a) MAINSAIL and HEADSAIL: The aft edge.

(b) SPINNAKER: The edges other than the **foot**.

G.2.3 Luff

MAINSAIL and HEADSAIL: The fore edge(s).

G.3 SAIL CORNERS

G.3.1 Clew

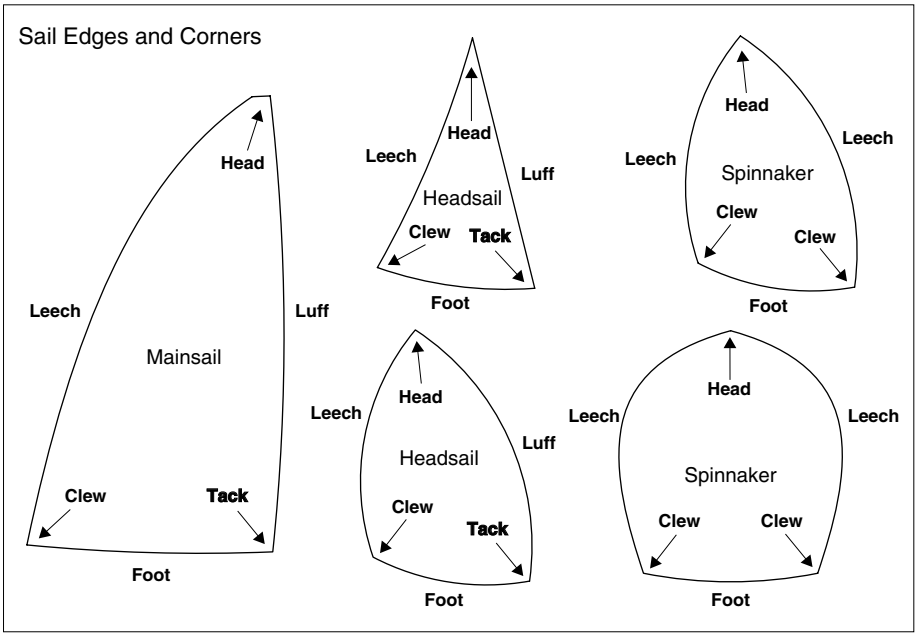
The area where the **foot** and the **leech** meet.

G.3.2 Head

The area at the top.

G.3.3 Tack

The area where the **luff** and the **foot** meet.



G.4 SAIL CORNER MEASUREMENT POINTS

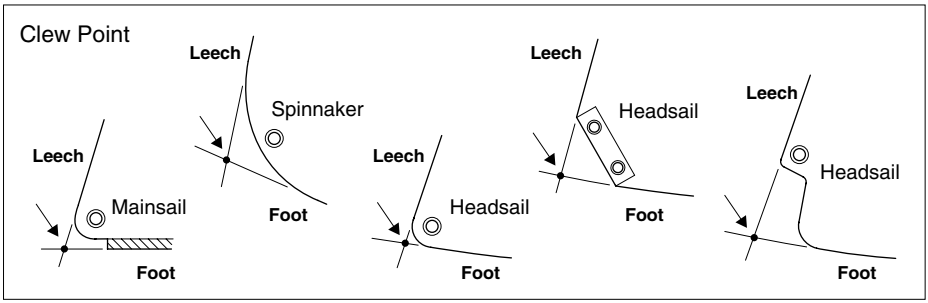
G.4.1 Clew Point

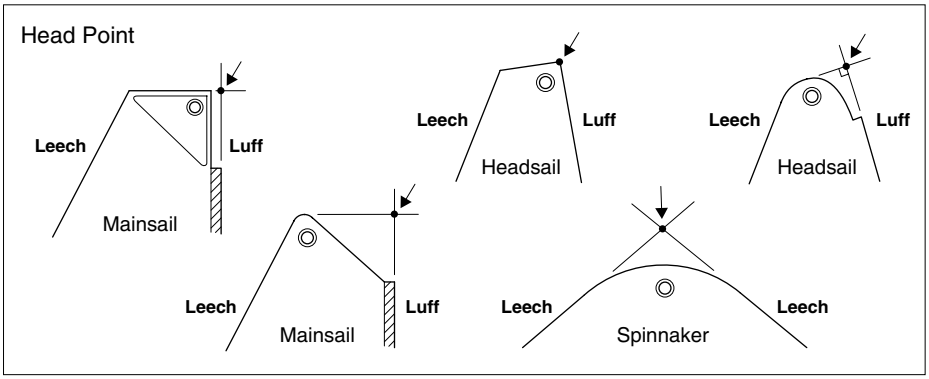
The intersection of the **foot** and the **leech**, each extended as necessary.

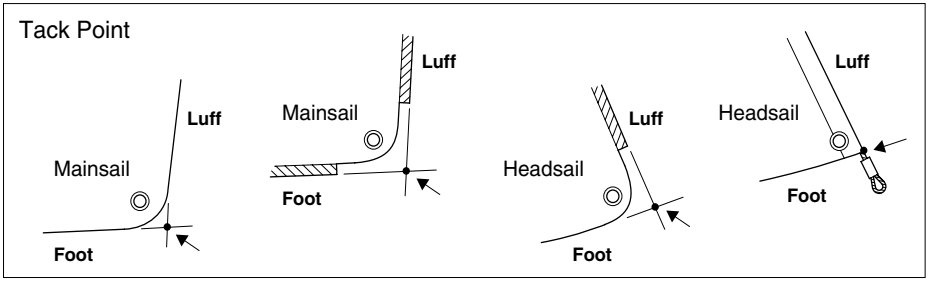
G.4.2 Head Point

(a) MAINSAIL and HEADSAIL: The intersection of the **luff**, extended as necessary, and the line through the highest point of the **sail** at 90° to the **luff**.

(b) SPINNAKER: The intersection of the **leeches**, extended as necessary.







G.4.3 Tack Point

The intersection of the **foot** and the **luff**, each extended as necessary.

G.5 OTHER SAIL MEASUREMENT POINTS

G.5.1 Quarter Leech Point

The point on the **leech** equidistant from the **half leech point** and the **clew point**.

G.5.2 Half Leech Point

The point on the **leech** equidistant from the **head point** and the **clew point**.

G.5.3 Three-Quarter Leech Point

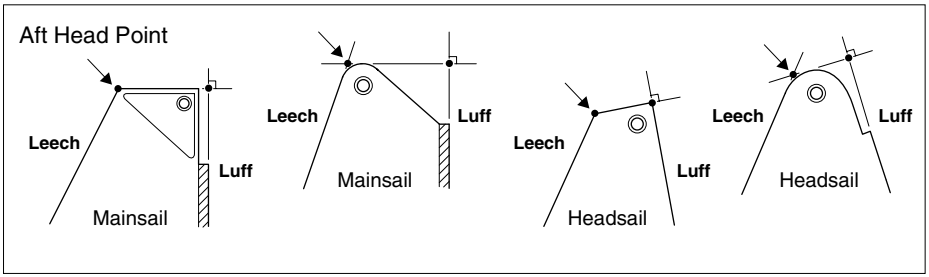
The point on the **leech** equidistant from the **head point** and the **half leech point**.

G.5.4 Upper Leech Point

The point on the **leech** a specified distance from the **head point**.

G.5.5 Aft Head Point

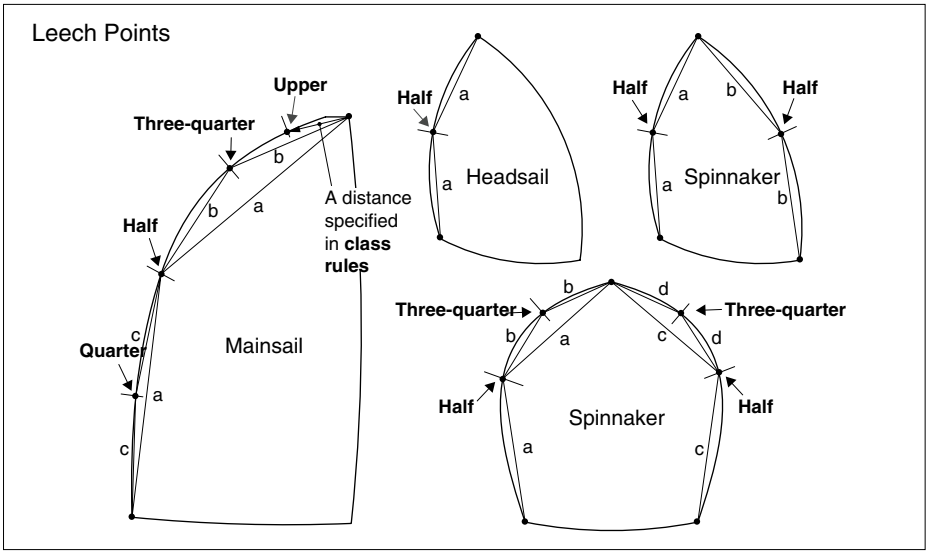
The intersection of the **leech** extended as necessary and the line through the **head point** at 90° to the **luff**.



G.5.6 Mid Foot Point

(a) MAINSAIL and HEAD-SAIL: The point on the **foot** equidistant from the **tack point** and the **clew point**.

(b) SPINNAKER: The point on the **foot** equidistant from the **clew points**.



G.6 SAIL REINFORCEMENT

G.6.1 Primary Reinforcement

An unrestricted number of additional **ply** of permitted material:

at a corner

at a Cunningham hole

at a reefing point adjacent to the **luff**

at a reefing point adjacent to the **leech**

at a **sail** recovery point

where permitted by the **class rules**

G.6.2 Secondary Reinforcement

Not more than two additional **ply** of permitted material each not thicker than the maximum thickness of the **ply** of the **body of the sail**:

at a corner

at a Cunningham hole

at a reefing point adjacent to the **luff**

at a reefing point adjacent to the **leech**

at a **sail** recovery point

to form a **flutter patch**

to form a **chafing patch**

to form a **batten pocket patch**

where permitted by the **class rules**

G.6.3 Batten Pocket Patch

Secondary reinforcement at the inner end of a **batten pocket**.

G.6.4 Chafing Patch

Secondary reinforcement where a **sail** can touch a **spreader**, stanchion, shroud or **spinnaker pole**.

G.6.5 Flutter Patch

Secondary reinforcement on the **leech** or the **foot** at the end of a **seam**.

G.7 PRIMARY SAIL DIMENSIONS

See also H.5

G.7.1 Foot Length

(a) MAINSAIL and HEADSAIL: The distance between the **clew point** and the **tack point**.

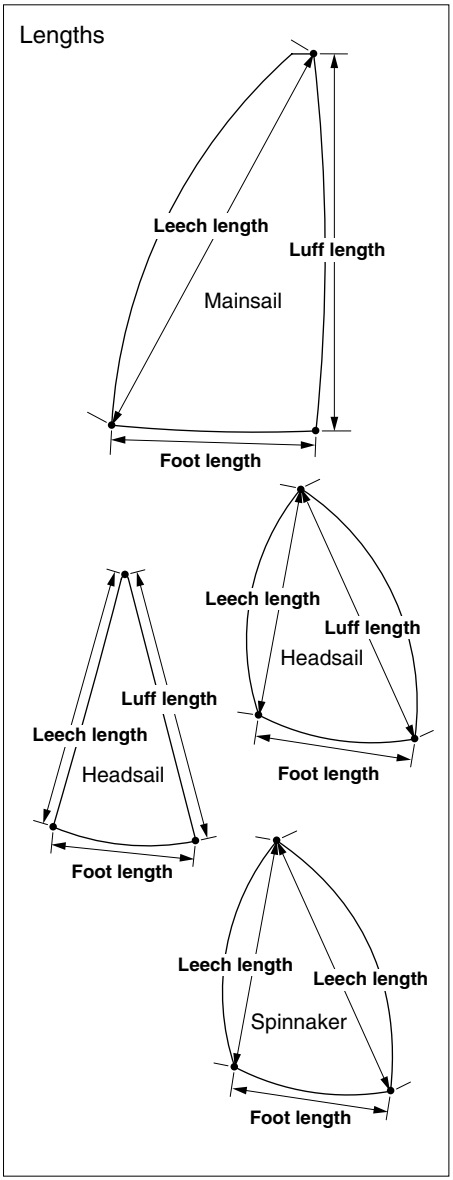
(b) SPINNAKER: The distance between the **clew points**.

G.7.2 Leech Length

The distance between the **head point** and the **clew point**.

G.7.3 Luff Length

The distance between the **head point** and the **tack point**.



G.7.4 Quarter Width

(a) MAINSAIL and HEAD-SAIL: The shortest distance between the **quarter leech point** and the **luff**.

(b) SPINNAKER: The distance between the **quarter leech points**.

G.7.5 Half Width

(a) MAINSAIL and HEAD-SAIL: The shortest distance between the **half leech point** and the **luff**.

(b) SPINNAKER: The distance between the **half leech points**.

G.7.6 Three-Quarter Width

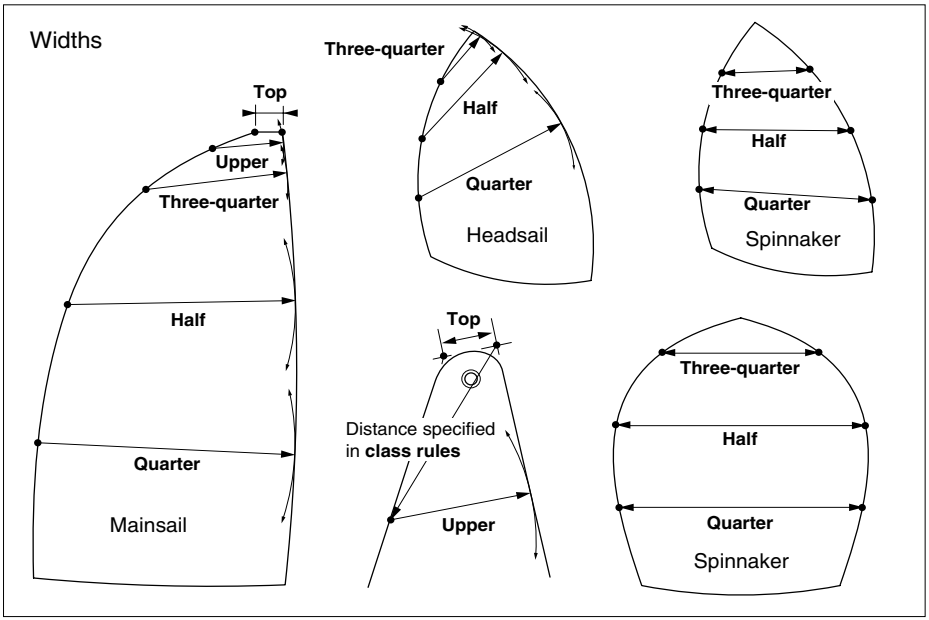
(a) MAINSAIL and HEAD-SAIL: The shortest distance between the **three-quarter leech point** and the **luff**.

(b) SPINNAKER: The distance between the **three-quarter leech points**.

G.7.7 Upper Width

(a) MAINSAIL and HEAD-SAIL: The shortest distance between the **upper leech point** and the **luff**.

(b) SPINNAKER: The distance between the **upper leech points**.



G.7.8 Top Width

The distance between the **head point** and the **aft head point**.

G.7.9 Diagonal

(a) SPINNAKER: The distance between a **clew point** and the opposite **half leech point**.

G.7.10 Foot Median

The distance between the **head point** and the **mid foot point**.

G.7.11 Luff Perpendicular

(a) MAINSAIL and HEADSAIL: The shortest distance between the **clew point** and the **luff**.

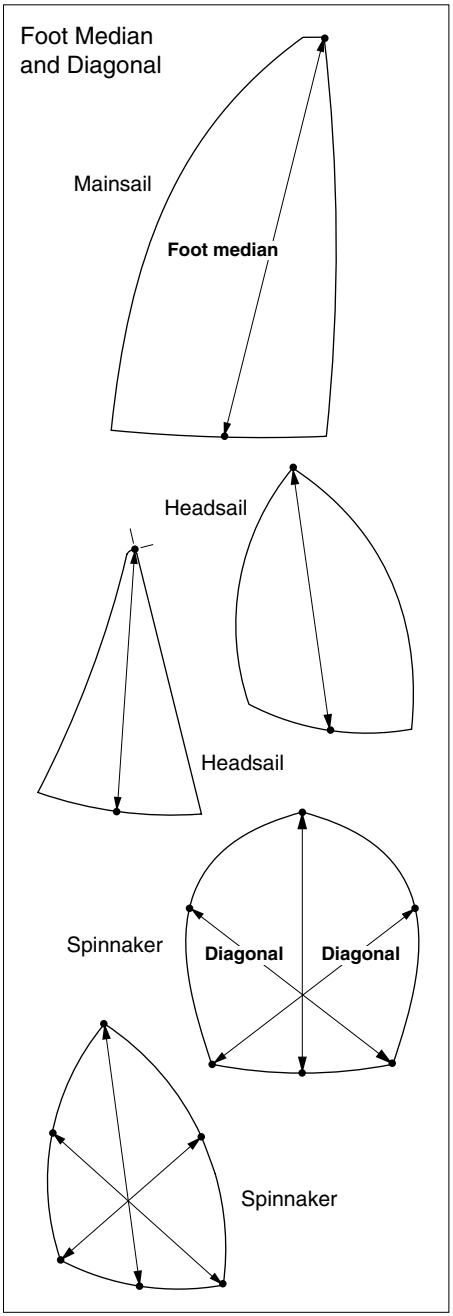
G.8 OTHER SAIL DIMENSIONS

See also H.5

G.8.1 Batten Pocket Length

(a) INSIDE: The distance between the **sail edge** and the internal extreme end of the **batten pocket**, measured parallel to the pocket centre-line. The effect of any elastic or other retaining device shall be ignored.

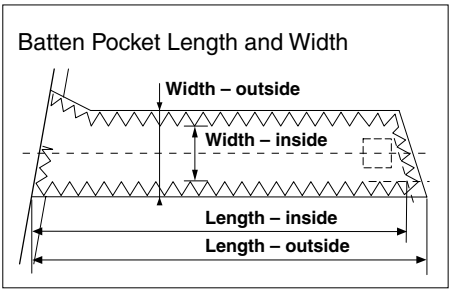
(b) OUTSIDE: The distance between the **sail edge** and the external extreme end of the **batten pocket**, measured parallel to the pocket centre-line.



G.8.2 Batten Pocket Width

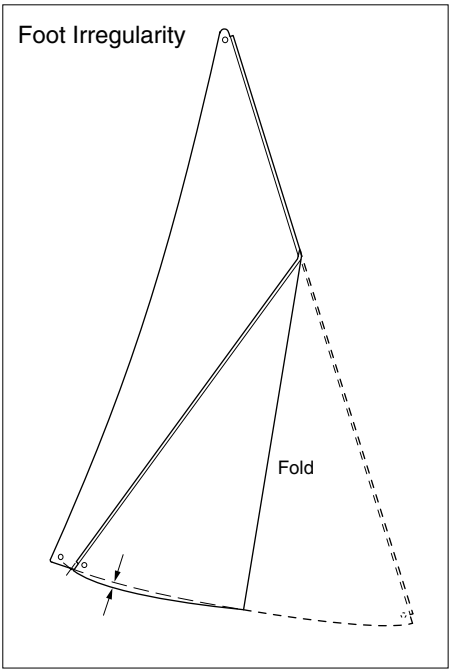
(a) INSIDE: The greatest distance between inside edges of the **batten pocket** measured at 90° to pocket centreline. Local widening for batten insertion shall be ignored.

(b) OUTSIDE: The greatest distance between the outside edges of the **batten pocket** measured at 90° to the pocket centreline. Local widening for batten insertion shall be ignored.



G.8.3 Foot Irregularity

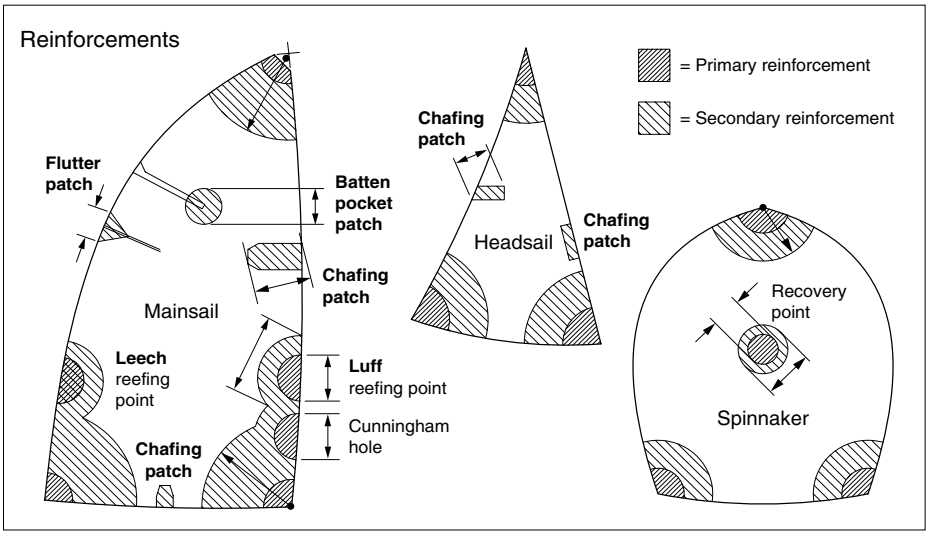
The maximum distance between the edges of the **foot** when first the **tack point** and then the **clew point** are superimposed on any part of the **foot**.



G.8.4 Reinforcement Size

(a) AT A CORNER: The greatest dimension of the **sail reinforcement** from a **sail corner measurement point**.

(b) ELSEWHERE: The greatest dimension of the **sail reinforcement**.

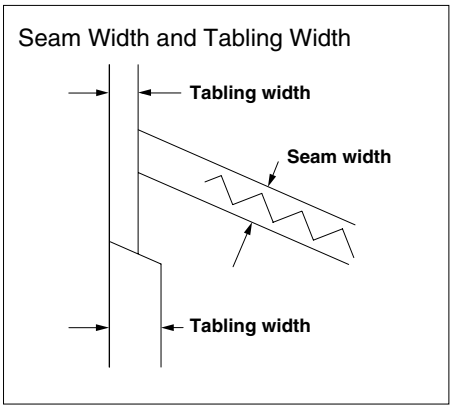


G.8.5 Seam Width

The width of a **seam** measured at 90° to the **seam**.

G.8.6 Tabling Width

The width of a **tabling** measured at 90° to the **sail edge**.



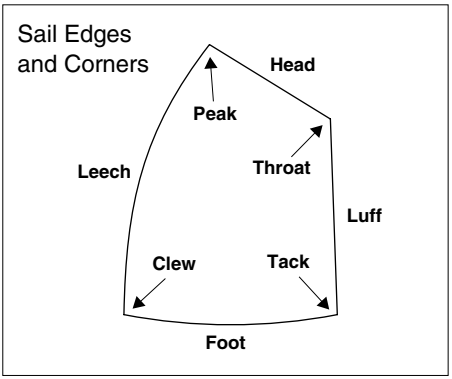
Subsection B – Additions for Other Sails

The following definitions for other sails, e.g. "GAFF SAILS", "LUGSAILS" and "SPRIT-SAILS", are additional to or vary those given in Subsection A of this Section.

G.2 SAIL EDGES

G.2.4 Head

The top edge.



G.3 SAIL CORNERS

G.3.4 Peak

The area where the **head** and the **leech** meet.

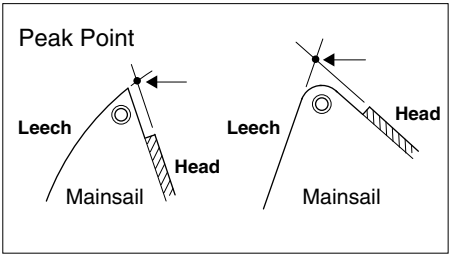
G.3.5 Throat

The area where the **head** and the **luff** meet.

G.4 SAIL CORNER MEASUREMENT POINTS

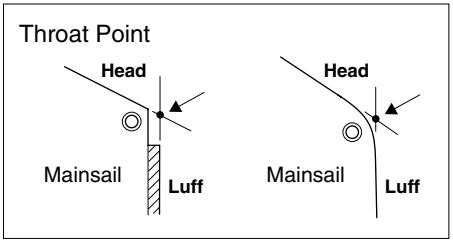
G.4.4 Peak Point

The intersection of the **head** and **leech**, each extended as necessary.



G.4.5 Throat Point

The intersection of the **head** and **luff**, each extended as necessary.



G.5 OTHER SAIL MEASUREMENT POINTS

G.5.2 Half Leech Point

The point on the **leech** equidistant from the **peak point** and the **clew point**.

G.5.3 Three-Quarter Leech Point

The point on the **leech** equidistant from the **peak point** and the **half leech point**.

G.5.4 Upper Leech Point

The point on the **leech** a specified distance from the **peak point**.

G.7 PRIMARY SAIL DIMENSIONS

G.7.2 Leech Length

The distance between the **peak point** and the **clew point**.

G.7.3 Luff Length

The distance between the **throat point** and the **tack point**.

G.7.9 Diagonal

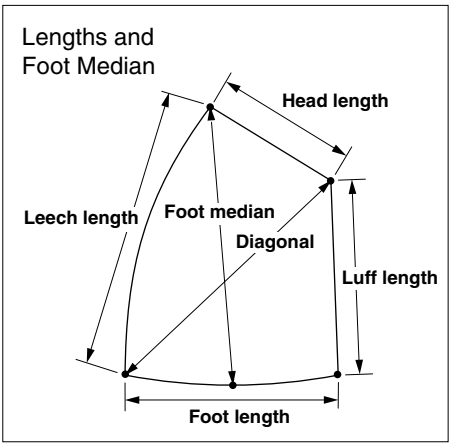
The distance between the **throat point** and the **clew point**.

G.7.10 Foot Median

The distance between the **peak point** and the **mid foot point**.

G.7.12 Head Length

The distance between the **peak point** and the **throat point**.



PART III – MEASUREMENT RULES

Section H – Measurement

H.1 MEASURERS

H.1.1 A measurer shall not measure any part of a **boat** owned, designed or built by himself, or in which he is an interested party, or has a vested interest, except where permitted by the MNA.

H.1.2 If an **official measurer** is in any doubt as to the application of, or compliance with, the **class rules** of any part of a **boat** he shall consult the **certification authority,** which if in doubt shall consult the authority responsible for interpreting the **class rules**, before signing a measurement form or attaching a **certification mark**.

H.1.3 An **official measurer** shall only carry out **fundamental measurement** in another country with the prior agreement of the MNA in the country where the measurement shall take place.

H.1.4 If an **event measurer** is in any doubt as to the application of, or compliance with, the **class rules**, the question should be referred to the, **certification authority** in the country where the event takes place, which if in doubt shall consult the authority responsible for interpreting the **class rules**.

H.2 AXES OF MEASUREMENT

H.2.1 Words such as “fore”, “aft”, “above”, “below”, “height”, “depth”, “length”, “beam”, “freeboard”, “inboard” and “outboard” acquire a precise meaning in measurement as they are all taken to refer to a **boat** in measurement trim. All measure-ment denoted by these, or similar words, shall be taken parallel to one of the three major axes.

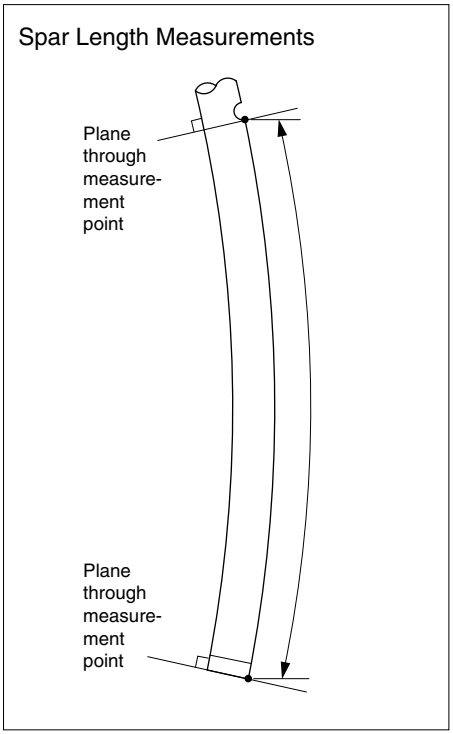
H.2.2 Width, thickness, length etc. of a component shall be measured as appropriate for that component, without reference to the **hull** axis.

H.2.3 Unless otherwise specified, measurement shall be the shortest distance between the measurement points.

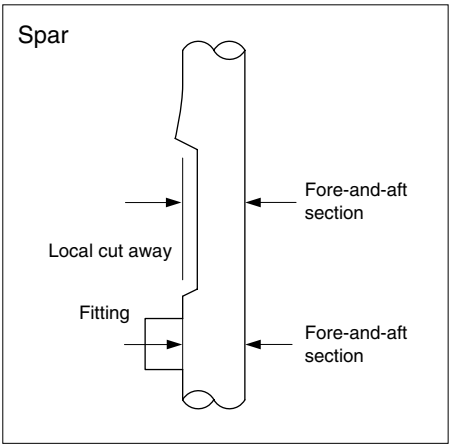
H.2.4 Longitudinal measurements shall be taken parallel to the horizontal **hull** axes.

H.3 RIG MEASUREMENT

H.3.1 Measurements in the length direction shall be taken along the **spar** at the side relevant for the measurement and between planes through the measurement points at 90° to the **spar**.



H.3.2 Fittings, local curvature and local cut away, shall be ignored when measuring a **spar**.



H.3.3 No external pressure shall be applied to a **spar** when measuring unless specifically prescribed.

H.3.4 Adjustable fittings shall be set in the position that gives the greatest value when the measurement is taken.

H.3.5 When **mast spar deflection** or **boom spar deflection** is checked, free ends of **rigging** shall not be supported by the **spar**.

H.3.6 When **mast tip weight** is checked, halyards shall be fully hoisted and **rigging** shall be tied to the **spar** at the **lower limit mark** with lower ends hanging free or resting on the ground.

H.4 SAIL MEASUREMENT

H.4.1 Conditions of Sail

The **sail** shall

be dry,

not be attached to **spars** or **rigging**,

have all battens removed,

have pockets of any type flattened out,

have just sufficient tension applied to remove wrinkles across the line of the measurement being taken and

have only one measurement taken at a time.

H.4.2 Hollows in Sail Edges

Where the **sail edge** is hollow;

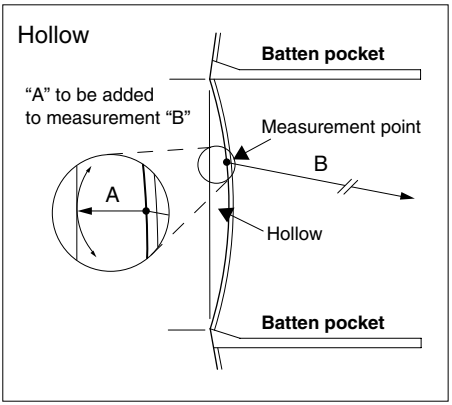
between adjacent **batten pockets**;

between the **aft head point** and adjacent **batten pocket**;

between the **clew point** and adjacent **batten pocket**;

between the **tack point** and adjacent **batten pocket**;

and a measurement point falls in the hollow, the **sail** shall be flattened out in the area of the **sail edge**, the hollow shall be bridged by a straight line and the shortest distance from the measurement point to the straight line shall be measured. This distance shall be added to the measurement being taken.



H.4.3 Attachments

Attachments to an edge of the **sail**, other than a bolt rope, shall be ignored when measuring.

H.5 CHECKING MATERIALS

A measurer is not required to check materials unless the **class rules** specifically prescribe this.

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* See Section G, Subsection B – Additions Other Sails