

# *dragonforce 65*

## **DRAGONFORCE 65 RESTRICTED CLASS RULES**

2024

Version 1.8.4

Effective from 1st January 2024



## Introduction

The DragonForce 65 project started in 2011 as a collaboration between Joysway (hereafter referred to as 'the Licensed Builder'), Ripmax UK and the design & development group of Mike Weston, Mark Dicks and John Tushingham. Joysway manufacture the boat in China and distribute worldwide through their extensive network of agents.

The DragonForce 65 is to be raced as a 'Restricted Class'. That means the boat is to be raced as supplied by the Licensed Builder, with any changes 'restricted' to those specifically stated in these rules. The website *www.dfracing.world* will act as a central resource for all class information.

# DragonForce 65 Restricted Class Rules

## Section A - Fundamental Rules Structure

### A.1 The Licensed Builder

The DragonForce 65 is built by Joysway Hobby (HK) Ltd, hereafter referred to as 'the Licensed Builder'.

### A.2 Authority

The rules are administered by the DF International Class Rules Sub-committee and published on the website *www.dfracing.world*. Any proposed alterations, or clarifications of these rules must be submitted to the Rules Sub-committee via a National Class Representative sitting on the DF ICA World Council for their consideration. Any changes will be announced and published on the *www.dfracing.world* website.

### A.3 Language

The official language of the class is English and in case of any dispute over translation the English text shall prevail.

### A.4 Clarification

The word "shall" is mandatory and the word "may" is permissive.

### A.5 Spirit of the Rules

These Class Rules are a 'Closed' set of rules. The fundamental aim of these rules is to ensure that all DragonForce 65 Restricted Class boats are raced on a level performance basis and the cost of buying and maintaining the boat is kept under control to appeal to newcomers and experienced radio sailors alike.

With this clear aim in mind owners are asked to adhere to the spirit of these rules and not seek to gain a performance advantage by manipulation of the wording through translation or other means.

### A.6 Modifications

The boat shall be raced as supplied by the Licensed Builder and rigged as shown in the Rigging Instruction Manual supplied with the boat, with no modifications or additions apart from the permitted changes described in these rules. Any dimensions shown in Rigging Instruction Manual are for guidance only.

**A.7 Repairs**

Emergency repairs to any part of the boat are permissible, provided they are not intended to enhance the original function or performance of the damaged items.

Repairs to hull cracks around the base of the keelbox are permitted, provided such repairs are done inside the hull and confined to an area within 30mm from the junction of the hull skin and the finbox trunking. Any such repair shall be of tape, glue or resin which may contain reinforcing fibres or one layer of reinforcing material. Once a hull has been so repaired it may continue to be used.

No additional structure, other than the surface repair detailed above, is permitted.

**A.8 Certificate**

All equipment supplied by the Licensed Builder is deemed class legal, therefore no measurement certificate is required. However, boats may be subject to inspection by the race committee at registration or at any time during a regatta or series to determine compliance with these rules. If a boat is found to be noncompliant during a regatta, the race committee may remove all results up to that point and ask the owner to bring the boat back within the rules or, if this is not possible, withdraw the boat from the event.

**A.9 Equipment Descriptions**

Equipment described in these rules by name or product code refer to the those used in the Licensed Builder's Rigging Instructions Manual as supplied with the boat. An English language copy of this document is available on the website [www.dfracing.world](http://www.dfracing.world)

**A.10 Equipment Limitations**

Except in the case of demonstrable damage, only one hull, keel, ballast, rudder and one of each prescribed A+, A, B & C rig may be used per event.

**Section B - Electronic Equipment****B.1 Sail Winch**

The Sail Winch and winch drum shall be as supplied by the Licensed Builder. The sail winch shall not be modified electronically or mechanically from its factory default performance torque, speed or revolutions, except for electrical end point adjustment by transmitter or other external device.

**B.2 Rudder Servo**

In the event of failure, the servo may be replaced by the standard item as supplied by the Licensed Builder, or by any suitable servo fitting the standard cutout in the servo tray without modification.

**B.3 Battery Pack**

The standard dry cell battery box and dry cells may be substituted by a rechargeable battery pack with a minimum weight of 45gms. The battery pack shall be fixed to the servo tray or by hook & loop fastening to the side of the fin box and accessed through the smaller forward deck hatch. A battery extension lead may be used. More than one battery pack may be used during a regatta but all packs shall be within 5gms of each other.

*(Note: Using a smaller, rechargeable pack in place of the standard battery box and positioning the battery in the forward position means that once the boat is set up, the main deck patch can be left in place and only the smaller, forward patch needs lifting for access to the battery and for air circulation to allow the boat to dry inside after sailing)*

**B.4 Transmitter & Receiver**

Owners may substitute the standard items for their own equipment. The receiver aerials may be installed in any manner inside the Hull.

## Section C - Hull & Deck

### C.1 Hull Finish

In the event of damage/scratches or personal colour preference the hull may be repainted. A gloss finish coat is required and no sanding following the final coat of paint is allowed. Sanding prior to painting shall be no more than the minimum needed to reach a surface suitable for application of new paint. Excessive sanding to reduce hull skin thickness or to fair the hull, is prohibited and a clear contravention of Rule A.5. No attempt shall be made to fair in the base of the keel box, rudder tube or bow bumper beyond the Licensed Builder's factory finish. DragonFlite 65 decals are not required

### C.2 Hull Decoration

To aid identification, the hull and deck may be decorated with stickers, provided these are not 'technical films' intended to reduce hull friction.

### C.3 Deck Hatch & Deck Patches

The clear plastic Deck Hatch shall be used when racing Version 6 and later boats. Version 1-5 boats were not supplied with a Deck Hatch, therefore it's use is not required. The Licensed Builder's standard Deck Patches may be substituted for items made of any suitable material provided their function is only to seal the Deck Hatches. Tape may be used as an alternative to Deck Patches.

### C.4 Deck Eyes

The recesses for the Deck Eyes may be partly filled with glue or resin to prevent water leakage. Deck Eye 4 may be turned through 90° and modified to form a hook on pre-2015 boats. All Deck Eyes must remain in place but may be turned through any angle. Any roughness in the Deck Eyes may be smoothed to prevent rope abrasion

### C.5 Replacement Hull Moulding

A replacement hull moulding is available from the Licensed Builder and shall be completed using only standard fittings as supplied by the Licensed Builder. DragonForce 65 decals are not required. Older version boats may use newer version replacement hulls and fittings, provided those fittings require no modifications to the hull moulding.

### C.6 Drainage Bung

The drainage hole in the transom may be sealed by either the supplied rubber bung, any replacement bung or a self-adhesive patch. A retaining cord may be fitted to the bung and fastened to any fitting in the rear cockpit.

### C.7 Mainsheet Bridle

The stainless steel ring supplied by the Licensed Builder may be substituted by any similar stainless steel ring. The cord between the deck eye and the ring may be tied to either fitting and then lead through the bowsie.

### C.8 Fin Box

To prevent water leakage into the Fin Box cavity, the Fin Box mouldings may be removed and re-fitted with sealant where they overlap and around their top and bottom flanges where they meet the hull moulding. Refer to Rule C.1 regarding hull finish. *(Note: Do not overtighten the fixing screws when re-fitting, this can lead to Hull cracking around the bottom flange)*

### C.9 Fin Box Sticker

A transparent sticker, of dimensions shown in Diagram 1, may be stuck to the outside surface of the hull, covering the finbox and surrounding hull skin. The purpose of this sticker is to help prevent or seal any minor cracks in this area of the hull and to prevent water ingress into the finbox cavity from below the waterline.

A template will available to download from the website [www.dfracing.world](http://www.dfracing.world)

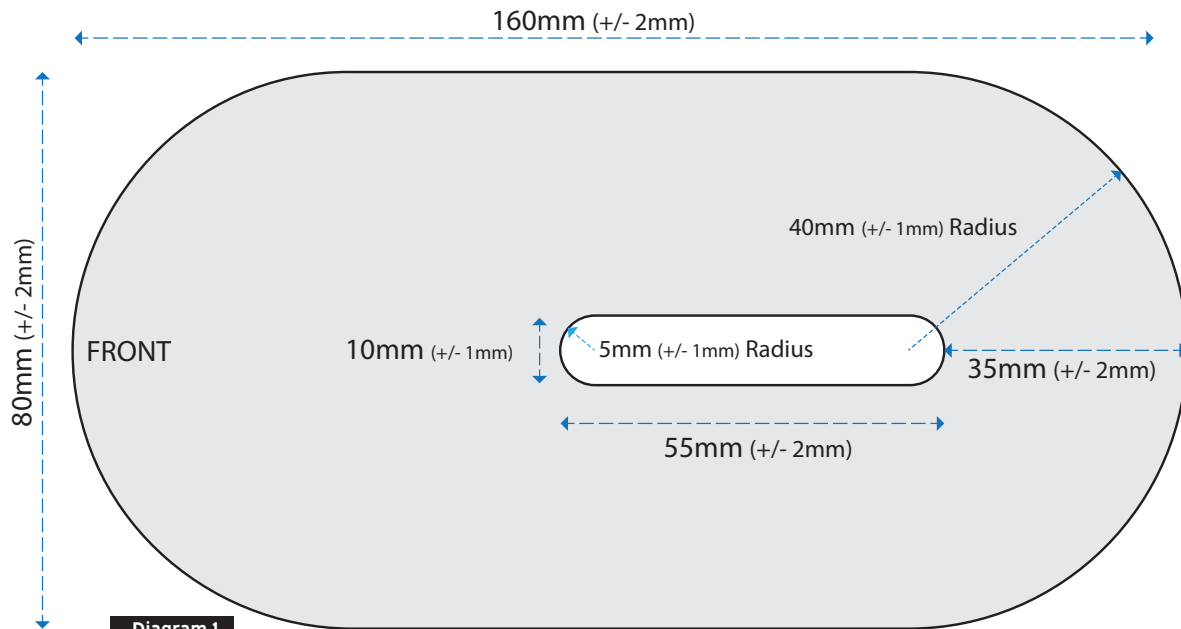


Diagram 1

**Keelbox Sticker.** (Note: This diagram is full size and can be used as a template if printed at 100%)

## Section D - Keel & Rudder

- D.1** In the event of damage/scratches or personal colour preference the Keel may be repainted. Any damaged area may be repaired as close to the original section as possible. A gloss finish coat is required and no sanding following the final coat of paint is allowed. Sanding prior to painting shall be no more than the minimum needed to reach a surface suitable for application of new paint.
- In the event of damage/scratches or personal colour preference the Rudder may be repainted. A gloss finish coat is required and no sanding following the final coat of paint is allowed. Sanding prior to painting shall be no more than the minimum needed to reach a surface suitable for application of new paint. Excessive sanding or filling to fair the Rudder is prohibited and a clear contravention of Rule A.5.
- D.2** Any moulding flashing around the edge of the rudder may be sanded flush.
- D.3** If the fit of the Rudder Shaft is too tight or too loose in hull's rudder tube, the plastic fitting in the hull may be drilled out to ease the fit or drilled and sleeved to tighten.
- D.4** The Keel Bulb may be repainted in the event of damage or personal colour preference. It may be sanded, any damage may be faired as close to original section as possible and painted. A gloss finish coat is required and no sanding following the final coat of paint is allowed.

- D.5** The hole in the base of the Keel Bulb may be covered with a sticker, but it shall not be used to conceal any additional added weight. Any such weight is a clear contravention of Rules A.5 and A.6.
- D.6** The short Keel available from the Licensed Builder, as an accessory, is not permissible in official DragonForce 65 Restricted Class events. It is available to allow the boat to be enjoyed in local, shallow water conditions for casual or club sailing.

## Section E - Rigs

The boat is supplied by the Licensed Builder with an A Rig. The larger A+ and smaller B & C Rigs are permissible. Dimensions and construction details are fully described in Sections G & H. All spars and rig fittings are restricted to those supplied by the Licensed Builder. Permitted changes are described in these rules.

Rigs may be construction using any version rig components, or any mix thereof, provided a component is used only for its designed purpose as described in the Builder's Rigging Instructions Manual.

Sails are either those supplied by the Licensed Builder, or made to the dimensions and construction as described in Section H by other manufacturers or individuals.

## Section F - Rigging

Any dimensions or angles shown in the Licensed Builder's Rigging Instructions Manual are intended as a guide to help initial setup of the boat and are not mandatory. The permitted changes to the rigging instructions are as follows:

- F.1** The owner may substitute the supplied Dyneema cord for any cord the owner deems suitable.
- F.1.1** The owner may substitute the supplied stainless steel rings with other stainless steel rings of a similar size.
- F.2** The Dyneema Jib Forestay supplied on pre version 6 boats may be substituted with wire. The wire Jib Forestay on version 6 boats may be substituted with any wire the owner deems suitable.

### **F.3 Jib Attachments**

The Jib Boom shall be attached to the boat by a line tied around the boom between Boom Bands SR2 & SR3 (Silicone Rings A & B on v6 boats), then through Deck Eye 2 and lead backwards and secured around Deck Eye 4 (which may be converted into a hook on pre-2015 boats as described in Rule C.4).

The Jib Tack (lower front corner) shall be attached by the metal hook supplied by the Licensed Builder, or tied directly to the eye in the Jib Boom front end fitting or directly to the Counterweight Shaft.

The Jib Boom Lifting Cord (rear end of Jib Boom) shall be fixed to the Forestay Fitting as shown in the Licensed Builder's Rigging Instructions Manual and shall comprise any system using any, or all, of the following; cord, a bowsie and a ring.

On the A+ Rig, the Forestay, Jib Cunningham and Jib Boom Lifting Cord Shall be attached to either the front eye in the A+ Backstay Crane, or attached to a metal ring tied to the front eye in the Backstay Crane. The ring shall be a maximum length of 30mm from the Backstay Crane eye. *This is to allow the Jib Boom Lifting Cord to clear the mast when tacking in light winds.*

The Jib Clew Hooks may be substituted with cord.

#### **F.4 Mainsail Attachments**

The Mainsail shall be attached to the mast and boom as shown in the Licensed Builder's Rigging Instructions Manual, but the Mainsail Luff Rings may be substituted with cord ties. The Mainsail Clew Hook may be substituted with cord.

#### **F.5 Backstay**

The Backstay shall be attached to the Backstay Crane and hull transom wire loop. It shall comprise any system using any, or all, of the following; cord, a bowsie, a ring, a plastic bead and a hook.

#### **F.6 Sail Sheeting**

The Jib Sheet shall be rigged on the Jib Boom as shown in the Licensed Builder's Rigging Instructions Manual and taken through Deck Eye 5, it may then be lead directly back to the Winch Line Clip. Routing through Deck Eyes 6, 7 or 8 is optional.

The Mainsheet shall be rigged on the Main Boom as shown in the Builder's Rigging Instructions and taken through the Mainsheet Bridle Metal Ring, it shall then be lead directly back to the Winch Line Clip.

#### **F.7 Winch Line Elastic**

The Winch Line Elastic shall be fitted as supplied or be tied to Deck Eye 2 and either taken directly back to the Winch Line Clip or routed through any other Deck Eyes. The supplied elastic may be substituted with any elastic the owner deems suitable.

#### **F.7.5 Winch Line Clip**

The Winch Line Clip may be substituted with any similar clip that does not contain a swivel and it's function is only to attach the sheets to the Winch Line).

#### **F.8 Sheet Guides**

The Jib Sheet and Mainsheet Guides Eyes may be glued on the booms and surplus silicone bands may be removed.

#### **F.9 Bowsies**

The standard Bowsies supplied with the boat may be substituted by those from another manufacturer.

## **Section G - Masts & Booms**

#### **G.1 Mast Tube Material**

Only tubing supplied by the Licensed Builder is permissible.

#### **G.2 Mast Lengths**

The A+ and A Rig masts shall be used as supplied by the Licensed Builder.

The B & C Rig mast tubes shall be either those supplied by the Licensed Builder, or cut down from the Licensed Builder's A Rig Mast Kits to the following lengths:

B Rig: Lower section 575mm, upper section 135mm

C Rig: Lower section 490mm, upper section 65mm

*(Note: These dimensions are the cut tube lengths and do not include any mast fittings)*

#### **G.3 Mast Construction**

To avoid the mast tubes splitting it is permitted to glue in the Mast Top Plug and glue the mast section joints. Boats supplied from 2015 onwards come with metal mast and jib boom bands to reinforce the tube ends. These rings are available as accessories and may be used on older boats.

## Section H - Sails

### H.1 Usage

A sail from one rig shall not be used with another sized rig.

### H.2 Construction

Construction shall be a soft sail of a single ply. The Jib and Mainsail of any given rig size shall be constructed from the same ply.

All sails shall be constructed of a single panel with no seams and the maker shall not try to introduce camber (shape) into the sail by means of heat or force.

The sails shall be attached to the rigging and spars by means of a single hole positioned within 10mm of each sail corner point (points A, C & E Jib, A, G & L Mainsail) and three other suitable positions along the mainsail luff. Metal eyelets may be used to reinforce these holes.

### H.3 Battens

**A+ Mainsail** - Shall have four battens with their outer ends positioned within 5mm of points H, I, J & K. The top batten shall have a maximum length of 100mm and the lower three battens a maximum length of 70mm. Maximum width 12mm.

**A & B Mainsails** - Shall have four battens with their outer ends positioned within 5mm of points H, I, J & K. The top batten shall have a maximum length of 100mm and the lower three battens a maximum length of 50mm. Maximum width 12mm.

**C Mainsail** - Shall have three battens with their outer ends positioned within 5mm of points I, J & K. Maximum length of 50mm. Maximum width 12mm.

**All Jibs** - May have two battens of maximum length 50mm and maximum width 12mm with their outer ends positioned anywhere along the Jib leech (back edge).

### H.4 Reinforcement Patches.

Reinforcement patches may be used at the sail corners, batten ends and mainsail luff attachment points. These shall be made of a self-adhesive material and not more than two layers per side at the sail corners and one layer per side at batten ends and Mainsail Luff attachment points.

Sail corner reinforcement must fit within an 80mm radius of the sail corner point, except for the A+ Mainsail whose head reinforcement patch shall fit within a 120mm radius of Point G.

Mainsail luff attachment point patches and batten end patches, at either end of the batten, shall fit within a circle of 20mm diameter

Mainsail luff tabling (reinforcement) is not permitted.

### H.5 Jib Luff

The Jib Luff shall form a straight line between points A & C.

Tabling at the luff (front edge) shall form a pocket for the Forestay. Maximum width of tabling shall be 12mm. Tabling forms part of the sail area and shall fit within the sail dimensions. Tabling shall be one, continuous pocket finishing within 10mm of points A & C.

### H.6 Leech Profile

Jib - The Jib leech shall form a straight line between points D & E.

Mainsail - The Mainsail leech shall be formed by a series of straight lines between the leech points G, H, I, J, K & L.

### H.7 Foot Profile

Jib - The Jib foot shall form a straight line between points A & E.

Mainsail - The Mainsail foot shall form a curve as described by a full-sized template available to download from the website [www.dfracing.world](http://www.dfracing.world)

This can be printed out at full size on an A4 printer.



### H.8 Mainsail Luff Curve

The amount of luff curve is optional, but must be included in the sail cross widths as described in Diagram 3 and Table 3

### H.9 Sail Numbering

Sail numbers shall be applied to the Mainsail and Jib. They shall conform to the dimensions shown in Table 1. On the Mainsail they shall be positioned below a line joining Sail Points E-I and above a line joining C-K (see Diagram 3).

Two or three digits can be used but must be consistent on all rigs and the same on both Main and Jib. When using two digits, there shall be space in front of a sail number for a numeric prefix.

National letters shall conform to the dimensions shown in Table 2 and positioned on the Mainsail below a line joining Sail Points C-K. National letters are only mandatory for international events.

All numbers and letters shall be filled in solid, in a strong contrasting colour and arranged for maximum legibility. Guidelines are available on [www.dfracing.world](http://www.dfracing.world)

Sail numbers, and national letters if fitted, shall be applied to both sides of the sail with port side numbers and letters positioned below starboard side.

Sail numbers, and national letters if fitted, shall be applied using either self-adhesive material or ink. Sails made before 1st June 2023 shall be 'grandfathered'.

Sail Number Dimensions and Spacing			Table 1	
	A+ & A Rigs		B & C Rigs	
	Min	Max	Min	Max
Height of Individual Sail Numbers	85mm	100mm	85mm	100mm
Width of Individual Sail Numbers (Excluding the Digit 1)	30mm		25mm	
Stroke Thickness of Individual Sail Numbers	7mm		7mm	
Spacing of Adjacent Numbers	15mm		10mm	
Vertical Spacing Between Rows	30mm		10mm	

National Letters Dimensions and Spacing			Table 2	
	All Rigs			
	Min	Max		
Height of Individual Letter	40mm	50mm		
Stroke Thickness of Individual Letters	4mm			
Spacing of Adjacent Letters	7mm			
Vertical Spacing Between Rows	15mm			

### H.10 Class Emblem

For DragonForce 65 Restricted Class racing the 65 logo (see Diagram 2) shall be applied to the Mainsail above a line joining Sail Points E-I using self-adhesive material or ink on one or both sides of the sail. If applied on both sides of the sail, port side shall be below starboard side with a clear gap between them.

The DF65 logo shall be 60mm wide. A template will available to download from the website [www.dfracing.world](http://www.dfracing.world)

Diagram 2

DragonForce 65 Sail Emblem



### H.11 Sail Decoration & Flow Stripes

Sails may be decorated using only ink or paint, but markings shall not interfere with easy identification of the sail numbers, or national letters if fitted. Flow Stripes may be added using ink, paint or soft adhesive tape. These are limited to a maximum of two stripes per sail and may be applied to both sides of the sail, back to back, and shall not interfere with sail numbers or national letters.

Flow stripes shall have a maximum stroke thickness of 10mm.

### H.12 Sail Manufacturer Logo

A sail manufacturer logo may be fitted on one or both sides of the sails and must be positioned within a radius of 80mm from the tack point A.

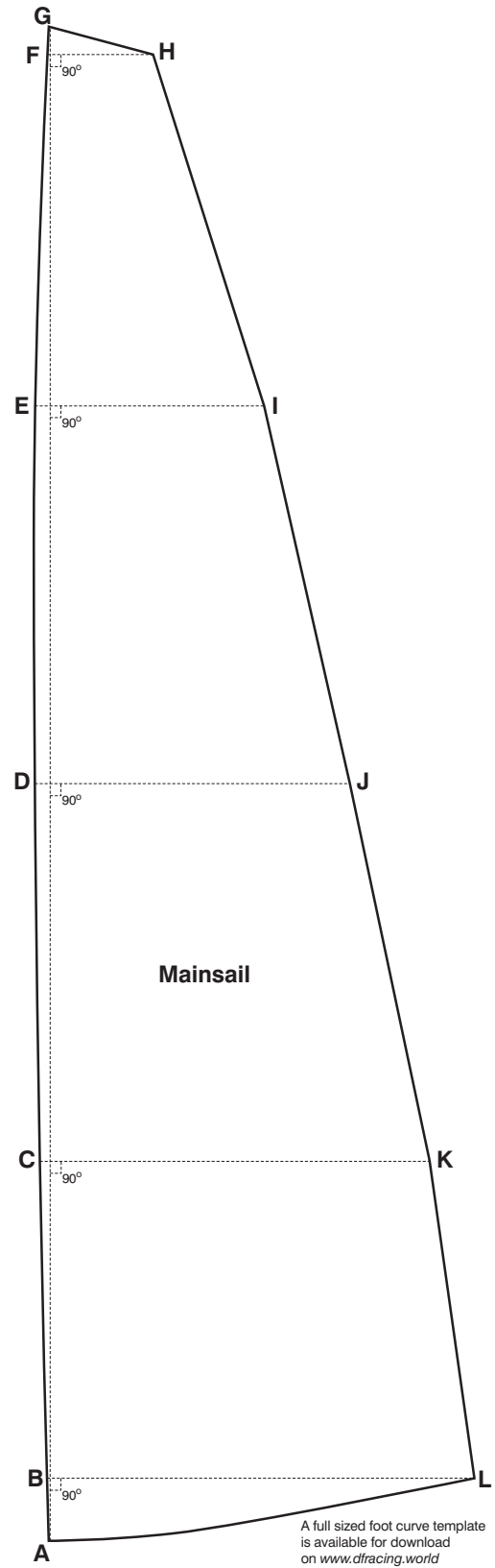
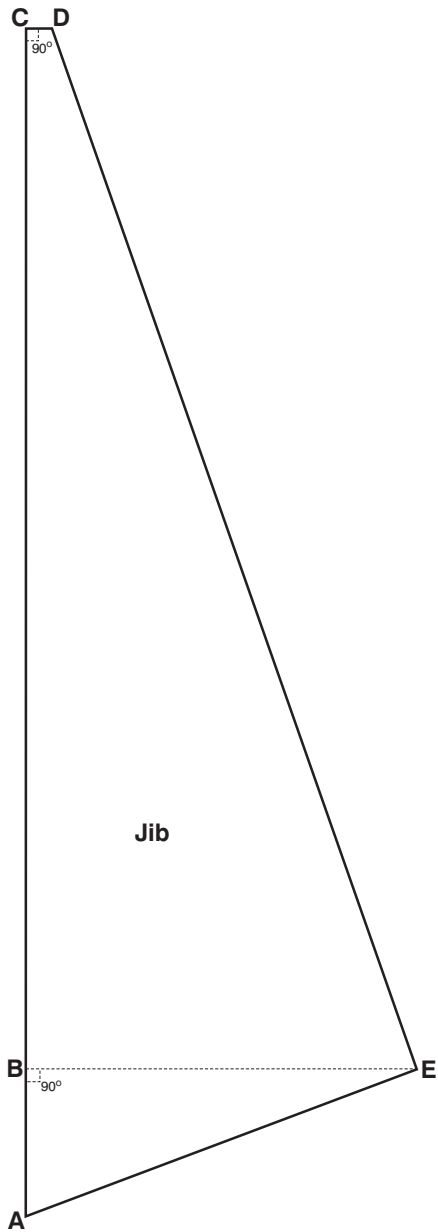
### H.13 Sail Telltales and Wind Indicators

Telltales may be used on the Jib and Mainsail. The number and position of them is not restricted, provided that when streaming in their normal position they do not fall outside of the sail outline shape. A wind indicator or burgee attached to the top of the mast or backstay crane is allowed provided it's sole purpose is to indicate wind direction.

Sail Dimensions		Table 3			
		A+ Mainsail	A Mainsail	B Mainsail	C Mainsail
HEIGHT	A-B	20mm	33mm	33mm	33mm
	A-C	219mm	213mm	205mm	168mm
	A-D	437mm	433mm	390mm	305mm
	A-E	654mm	649mm	563mm	474mm
	A-F	855mm	842mm	695mm	547mm
	A-G	869(+/- 2)mm	863(+/- 2)mm	710(+/- 2)mm	553(+/- 2)mm
WIDTH	B-L	281(+/- 2)mm	246(+/- 2)mm	246(+/- 2)mm	246(+/- 2)mm
	C-K	252(+/- 2)mm	222(+/- 2)mm	216(+/- 2)mm	218(+/- 2)mm
	D-J	202(+/- 2)mm	176(+/- 2)mm	173(+/- 2)mm	170(+/- 2)mm
	E-I	141(+/- 2)mm	127(+/- 2)mm	114(+/- 2)mm	86(+/- 2)mm
	F-H	79(+/- 2)mm	66(+/- 2)mm	48(+/- 2)mm	23(+/- 2)mm
		A+ Jib	A Jib	B Jib	C Jib
HEIGHT	A-B	55mm	73mm	86mm	102mm
	A-C	849(+/- 2)mm	633(+/- 2)mm	552(+/- 2)mm	474(+/- 2)mm
WIDTH	B-E	230(+/- 2)mm	206(+/- 2)mm	203(+/- 2)mm	194(+/- 2)mm
	C-D	16(+/- 1)mm	13(+/- 1)mm	13(+/- 1)mm	13(+/- 1)mm

Diagram 3

Sail Measurement Points referred to in Table 3



A full sized foot curve template is available for download on [www.dfracing.world](http://www.dfracing.world)