



# **DRAGON FORCE**

## **DRAGON FORCE RESTRICTED CLASS RULES**

2015

Version 1.5

## Introduction

The Dragon Force project started in 2011 as a collaboration between Joysway (hereafter referred to as 'the 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 boat is designed within the RG65 International Class Rules and is intended to be raced as either:-

**RG65 International Class.** The owner is free to modify the boat in any way provided it is done within the RG65 International Class rule.

or

**Dragon Force Restricted Class.** The boat is to be raced as supplied by the builder with no modifications unless specifically mentioned in these rules as 'permitted changes'. The boat is still eligible to race in RG65 International class races and it is envisioned that mixed fleet events will have prizes for the top Restricted Class boats as well as overall prizes. Other nations are encouraged to adopt these Restricted Class rules to establish international competition.

# Dragon Force Restricted Class Rules

## Section A - Fundamental Rules Structure

### A.1 Authority

The rules are written and administered by the Dragon Force Rules Committee (Mike Weston, Mark Dicks & John Tushingham) as appointed by the builder and published on the website [www.dragonforce65.com](http://www.dragonforce65.com). Any proposed alterations to these rules must be submitted to the Rules Committee for their consideration. Any changes will be announced and published on the website.

### A.2 Language

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

### A.3 Clarification

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

### A.4 Spirit of the Rules

The fundamental aim of these rules is to ensure that all Dragon Force 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.5 Modifications

The boat will be raced as supplied with no modifications or additions apart from any permitted changes described in these rules.

The website [www.dragonforce65.com](http://www.dragonforce65.com) includes a Hints & Tips section. These, or any other suggestions posted in the future, are deemed as permitted changes within these rules.

### **A.6 Repairs**

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

### **A.7 Certificate**

No measurement certificate is required, however, boats may be subject to inspection by the race committee at any time during a regatta or series to determine compliance with these rules. If a boat is found to be noncompliant, the race committee shall ask the owner to bring the boat back within the rules or, if this is not possible, withdraw the boat from the event.

### **A.8 Equipment Descriptions**

Equipment described in these rules by name or product code refer to the those used in the Builder's instruction book as supplied with the boat. An English language copy of this document is available on the website [www.dragonforce65.com](http://www.dragonforce65.com)

### **A.9 Equipment Limitations**

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

## **Section B - Electronic Equipment**

### **B.1 Sail Winch**

The Sail Winch shall be supplied by the Builder. No sail winch shall be modified electronically or mechanically from its factory default performance torque, speed or revolutions, except for those adjustments available through a transmitter.

### **B.2 Rudder Servo**

In the event of failure, the servo may be replaced by the standard item as supplied by the 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 48gms. The battery pack may be fixed by Velcro to the side of the fin box and accessed through the smaller forward deck hatch. A battery extension lead may be used.

*(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.

## Section C - **Hull & Deck**

### **C.1 Hull Finish**

In the event of damage, or if the owner wishes to make the boat more distinctive, the hull may be repaired and/or re-painted. However, no attempt must be made to fair in the base of the keel box, rudder tube or bow bumper beyond the Builder's factory finish. Dragon Force and RG65 decals are not required. *(Note: Excessive sanding to reduce hull skin thickness and reduce weight is a clear contravention of Rule A.4)*

### **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 Patches**

The Builder's standard deck patches may be substituted for items made of any suitable material provided their function is only to cover the two deck openings.

### **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.

### **C.5 Replacement Hull Moulding**

A replacement hull moulding is available from the Builder. This is supplied finished in white primer, it can be painted in any colour and must be completed using only standard fittings as supplied by the Builder. Dragon Force and RG65 decals are not required.

### **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.

## Section D - **Keel & Rudder**

**D.1** In the event of damage, the keel and rudder may be sanded, faired and re-painted as close to supplied section and finish as possible.

**D.2** Any moulding flashing around the edge of the rudder may be sanded flush.

**D.3** In the event of damage the Keel Ballast Bulb may be repaired and re-painted.

**D.4** The hole in the base of the Keel Ballast Bulb may be covered with a sticker, but it must not be used to conceal any additional added weight. Such weight would be a clear contravention of Rules A.4 and A.5.

**D.5** The short Keel available from the Builder as an accessory is not permissible in official Dragon Force 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 Builder with an A Rig. 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 Builder. Permitted changes are described in these rules.

Sails are either those supplied by the 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 Builders instruction 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.2** The Dyneema Jib Forestay may be substituted with wire.

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

The Jib Boom may be attached to the boat by a line tied around the boom between Boom Bands SR2 & SR3, then through Deck Eye 2 and lead backwards and secured around Deck Eye 4 (which may be converted into a hook as described in Rule C.4).

The Jib Tack (lower front corner) may be tied directly to the eye in the Jib Boom front end fitting.

The Jib Boom Lifting Cord (rear end of Jib Boom) shall be fixed to the Forestay Fitting as shown and may comprise any system using any, or all, of the following; cord, a bowsie and a ring.

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

The Mainsail may be attached to the Mast as shown in the instruction manual, or fixed using cord ties at the Head, Tack (front lower corner) and the three other Luff (front edge) openings.

### **F.5 Backstay**

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

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

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

The Mainsheet shall be rigged as shown on the Main Boom and taken through the Mainsheet Metal Ring, it may then be lead directly back to the Winch Line Clip. Routing through Deck Eye 8 is optional.

### **F.7 Bowsies**

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

## Section G - Masts

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

Only tubing supplied by the Builder is permissible.

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

The A Rig mast shall be used as supplied by the Builder.

The B & C Rig mast tubes shall be either those supplied by the Builder, or cut down from the 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, and recommended, to glue in the Mast Top Plug and glue the lower and upper mast tubes to the Forestay mast joiner. Boats supplied in 2015 onwards come with metal mast and jib boom bands to reinforce the tube ends. These rings are available as accessories and can 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 & 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.

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 of self-adhesive material of not more than four layers.

Sail corner reinforcement must fit within an 80mm radius of the sail corner point.

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 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 must 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 fair curve between points A & L with the point of maximum curvature **M** as described in Diagram 2.

### **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 1 and Table 1

### H.9 Sail Numbering

Sail numbering shall conform to the RG65 International Class Rule (see website [www.rg65.org](http://www.rg65.org)) with the permitted change to allow the use of three digits.

### H.10 Class Emblem

The RG65 class emblem shall be used in accordance with the RG65 International Class Rule.

### H.11 Sail Decoration

Sails may be decorated using ink, but markings shall not interfere with easy identification of the sail numbers, or national letters if fitted.

### 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

Telltails are permissible 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 1		
		<b>A Mainsail</b>	<b>B Mainsail</b>	<b>C Mainsail</b>
HEIGHT	<b>A-B</b>	33mm	33mm	33mm
	<b>A-C</b>	213mm	205mm	168mm
	<b>A-D</b>	433mm	390mm	305mm
	<b>A-E</b>	649mm	563mm	474mm
	<b>A-F</b>	842mm	695mm	547mm
	<b>A-G</b>	863(+/- 2)mm	710(+/- 2)mm	553(+/- 2)mm
	WIDTH	<b>B-L</b>	246(+/- 2)mm	246(+/- 2)mm
<b>C-K</b>		222(+/- 2)mm	216(+/- 2)mm	218(+/- 2)mm
<b>D-J</b>		176(+/- 2)mm	173(+/- 2)mm	170(+/- 2)mm
<b>E-I</b>		127(+/- 2)mm	114(+/- 2)mm	86(+/- 2)mm
<b>F-H</b>		66(+/- 2)mm	48(+/- 2)mm	23(+/- 2)mm
		<b>A Jib</b>	<b>B Jib</b>	<b>C Jib</b>
HEIGHT	<b>A-B</b>	73mm	86mm	102mm
	<b>A-C</b>	633(+/- 2)mm	552(+/- 2)mm	474(+/- 2)mm
WIDTH	<b>B-E</b>	206(+/- 2)mm	203(+/- 2)mm	194(+/- 2)mm
	<b>C-D</b>	13(+/- 1)mm	13(+/- 1)mm	13(+/- 1)mm

Sail Measurement Points referred to in Table 1

Diagram 1

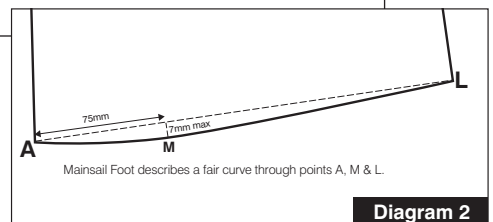
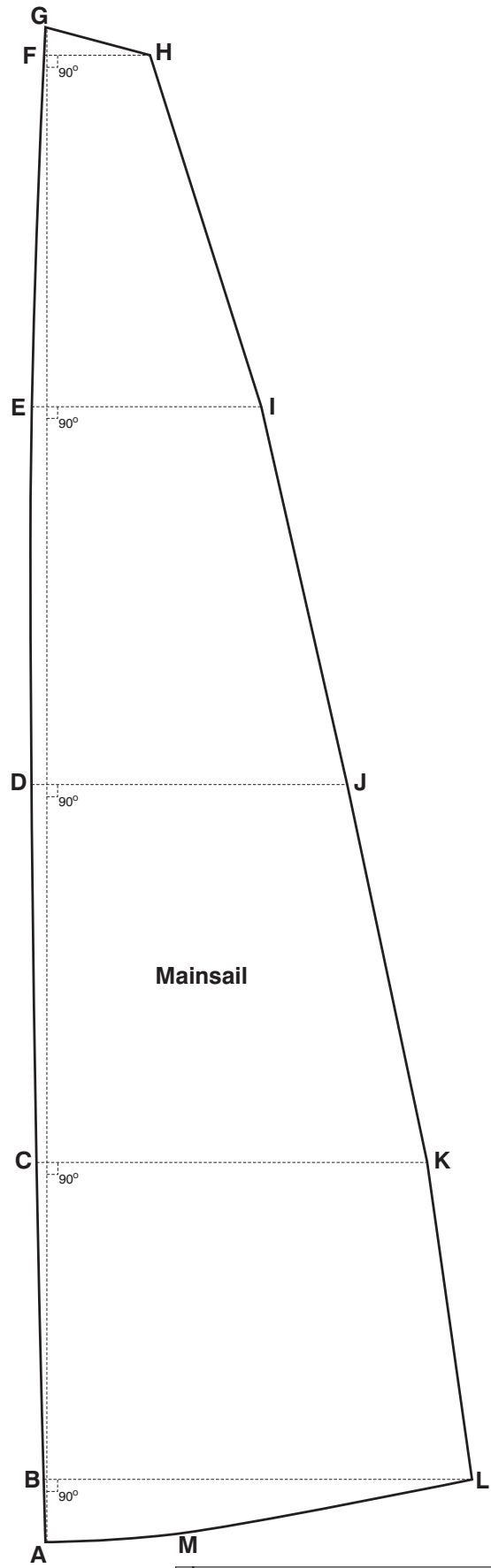
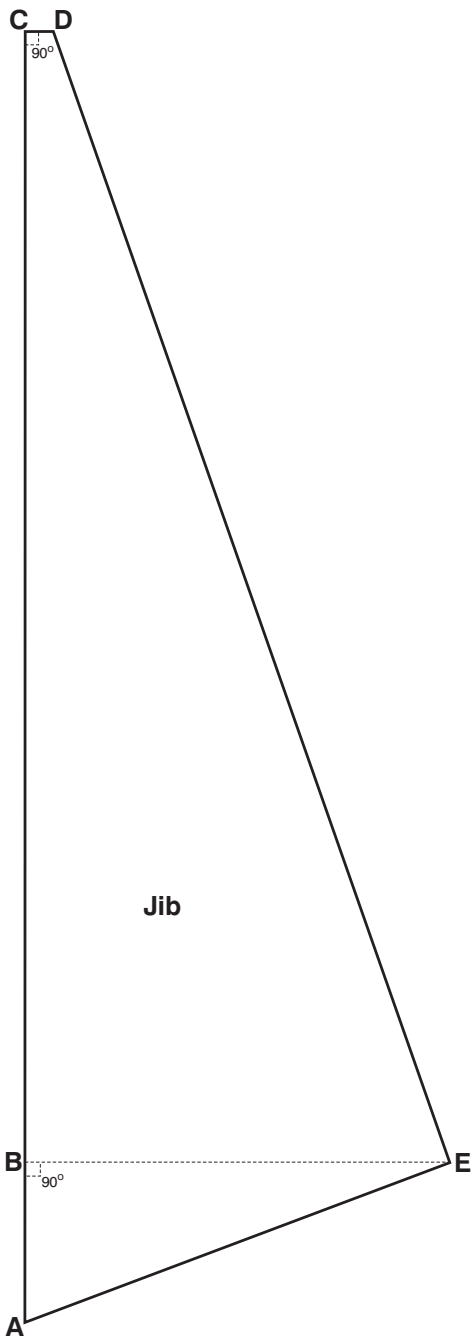


Diagram 2