



# *dragonforce 65*

## **DRAGONFORCE 65 RESTRICTED CLASS RULES**

2017  
Version 1.6



## Introduction

The DragonForce 65 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:-

**DragonForce 65 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. Nations are encouraged to adopt these Restricted Class rules to establish international competition.

or

**RG65 International Class.** The owner is free to modify the boat in any way provided it is done within the RG65 International Class rule. The A+ Rig is not RG65 rules compliant.

# DragonForce 65 Restricted Class Rules

## Section A - Fundamental Rules Structure

### A.1 The Builder

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

### A.2 Authority

The rules are written and administered by the DF Racing Rules Committee, as appointed by the Builder, and published on the website [www.dfracing.world](http://www.dfracing.world). Any proposed alterations to these rules shall be submitted to the Rules Committee for their consideration. Any changes will be announced and published on the 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

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 will be raced as supplied by the Builder with no modifications or additions apart from the permitted changes described in these rules.

### **A.7 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.8 Certificate**

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 disqualify the boat from its last race and/or 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 Builder's Rigging Instructions 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 shall be as supplied by the Builder. No sail winch shall 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 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 may 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. The sailwinch and rudder servo are rated at 6v, any battery pack of higher voltage may lead to servo failure.)*

### **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, or if the owner wishes to make the boat more distinctive, the hull may be repaired and/or re-painted. However, no attempt shall be made to fair in the base of the keel box, rudder tube or bow bumper beyond the Builder's factory finish. DragonForce 65 decals (and RG65 logos on v1 - v5 boats) are not required. *(Note: Excessive sanding to reduce hull skin thickness and reduce weight is a clear contravention of Rules A.5 & A.6)*

### **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 may be used when racing. The 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 Builder. It may be painted in any colour and shall be completed using only standard fittings as supplied by the 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 Ring**

The stainless steel ring supplied by the builder may be substituted by any similar ring. A third cord may be fitted to secure the position of the ring. It's front end shall be fastened to either the head of the keel bolt or the plastic plate supplied by the builder (part ref: 881534) and then lead back around the ring to a bowsie adjuster.

### **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. *(Note: Do not overtighten the fixing screws when re-fitting, this can lead to Hull cracking around the bottom flange)*

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

**D.1** The Keel and Rudder may be painted. 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** 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 the Keel Bulb may be sanded, faired and re-painted as close to supplied section as possible.
- D.5** The hole in the base of the Keel Ballast 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 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 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 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 it's designed purpose as described in the Builder's Rigging Instructions.

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 Builder's Rigging Instructions 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 supplied on pre version 6 boats may be substituted with wire.

### **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 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 Builder's Rigging Instructions 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.*

**F.4 Mainsail Attachments**

The Mainsail shall be attached to the mast and boom as shown in the Builder's Rigging Instructions, 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 and a hook.

**F.6 Sail Sheeting**

The Jib Sheet shall be rigged on the Jib Boom as shown in the Builder's Rigging Instructions 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 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 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.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****G.1 Mast Tube Material**

Only tubing supplied by the Builder is permissible.

**G.2 Mast Lengths**

The A+ and A Rig masts 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 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 of self-adhesive material of not more than four layers.

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 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.

All sail numbers and national letters shall be filled in solid.

### **H.10 Class Emblem**

For DragonForce 65 Restricted Class racing either the 65 logo (see Diagram 3) or the RG65 class emblem 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)

For RG65 class racing, the RG65 class emblem shall be used in accordance with the RG65 International Class Rule.

### **H.11 Sail Decoration & Flow Stripes**

Sails may be decorated using 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.

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

**Diagram 3**

DragonForce 65 Sail Emblem



Sail Measurement Points referred to in Table 1

Diagram 1

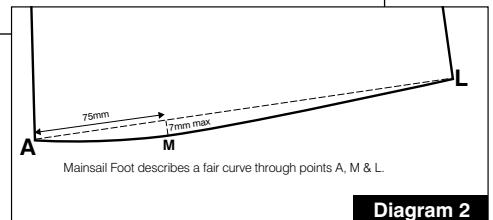
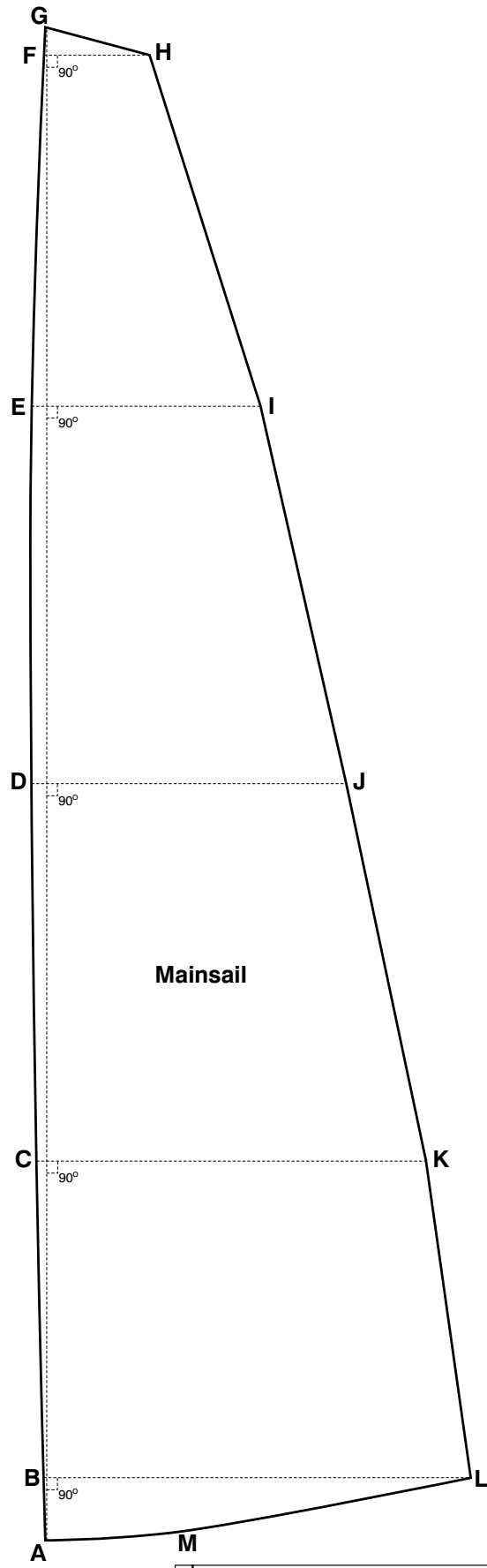
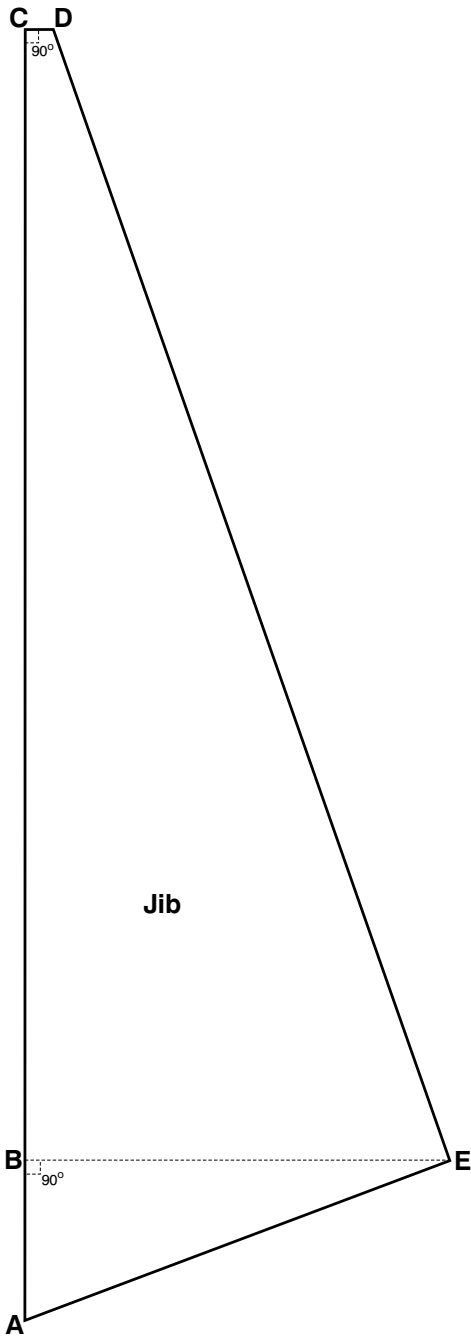


Diagram 2