dragonflite 95

DRAGONFLITE 95
RESTRICTED CLASS RULES

2023

Version 1.4

Effective from 1st June 2023

Revisions are marked in blue and explanations in red *(explanations do not form part of the rule)*

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Introduction

The DragonFlite 95 (DF95) project started in early 2014 with a brief to develop a bigger, faster stablemate to the DragonForce 65 in a package that was easy to transport by car or airplane. The two year development period from clean sheet concept to final production has allowed the design team and builder (Joysway) to ensure every aspect of performance and build quality set new standards for volume production RC sailboats.
The DF95 is to be raced as a 'Restricted Class'. That means the boat is to be raced as supplied by the 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.

DragonFlite 95
Restricted Class Rules

Section A - **Fundamental Rules Structure**

A.1 The Licensed Builder
The DragonFlite 95 is a design by John Tushingham, Buzz Coleman and Mark Dicks and 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 DragonFlite 95 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. Damaged or repaired items should then be replaced as soon as reasonably possible.

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 Instruction Manual as supplied with the boat. An English language copy of this document is available on the website ***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, B, C & D 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 box or rechargeable battery pack shall be fixed to the servo tray only. More than one battery pack may be used during a regatta but all packs shall be within 5gms of each other.

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 to the hull finish, 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 Licensed Builder's factory finish. DragonFlite 95 decals are not required. *(Note: Excessive sanding to reduce hull skin thickness and reduce weight is a clear contravention of Rule A.5)*

C.2 Hull Decoration

To aid identification, the hull and deck may be decorated with paint, ink or 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. 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 Hatch. 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 ingress.
All Deck Eyes shall remain in place. Any roughness in the deck eyes may be smoothed out to prevent rope abrasion.

C.5 Replacement Hull Moulding

A replacement hull moulding is available from the Licensed Builder. It can be painted in any colour and shall be completed using only standard fittings as supplied by the Licensed Builder. DragonFlite 95 decals are not required.

C.6 Drainage Bung

The drainage hole in the aft deck 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 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 the two parts joint together 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***

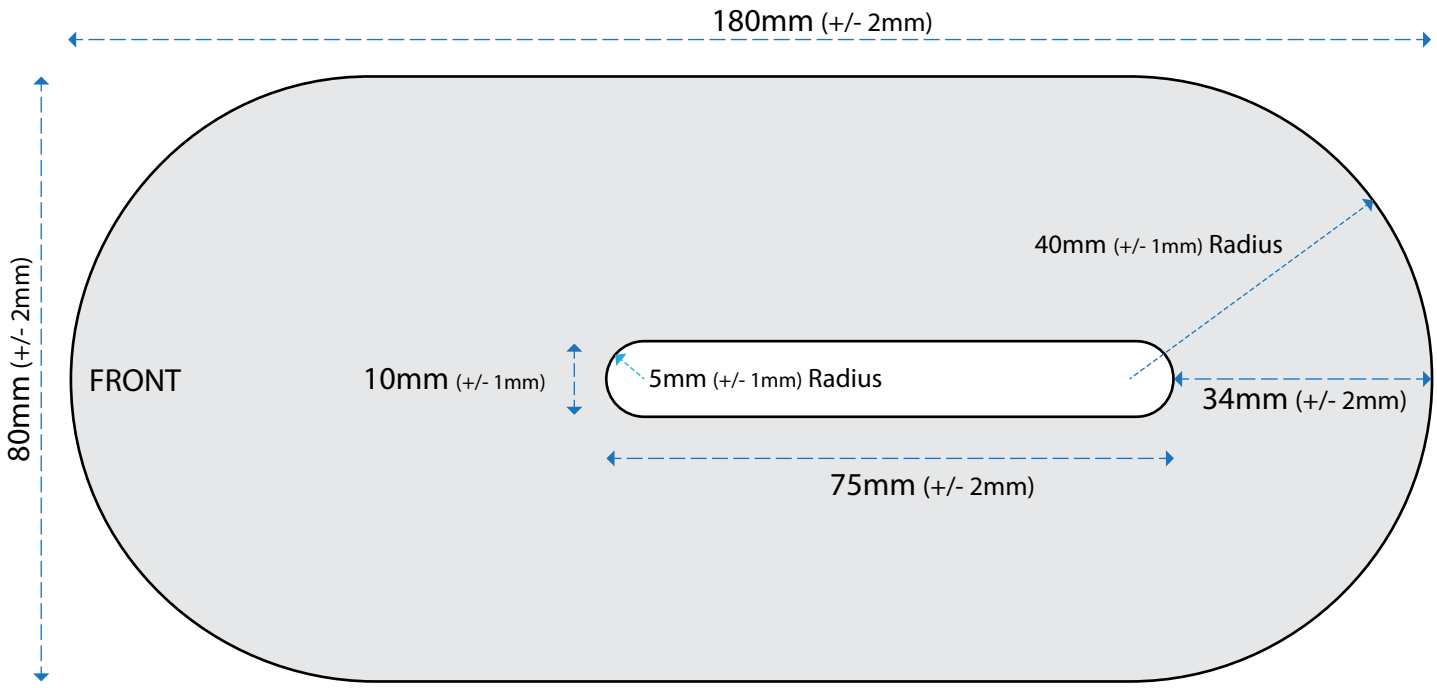

Diagram 1 Keelbox Sticker. (Note: This diagram is full size and can be used as a template if printed at 100%)

Section D - **Keel & Rudder**

D.1 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 Rudder Shaft is too tight or too loose a fit 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 Bulb may be covered with a sticker, but it shall not be used to conceal any additional added weight. Such weight would be a clear contravention of Rules A.5 and A.6.

Section E - **Rigs**

The boat is supplied by the Licensed Builder with an A Rig. Smaller B, C & D 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.

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 shown in the Licensed Builders 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 wire Jib Forestay may be substituted with any wire the owner deems suitable.

F.3 Jib Attachments

The Jib Boom shall be attached to the boat as shown in the Rigging Instructions Manual.

For Rigs A & B the cord shall go from the Jib Boom through Deck Eye 1 and back to the Jib Deck Hook.

For Rigs C & D the cord shall go from the Jib Boom through Deck Eye 2 and back to the Jib Deck Hook.

The loop in the end of the Jib Boom Hook Down may have a single, short length of cord attached to act as a tail to aid threading through the Deck Eyes and locating on the Jib Deck Hook.

The Jib Tack (lower front corner) shall be attached to the Jib Boom as shown in the Rigging Instructions. Manual

The Jib Forestay shall be rigged as shown in the Rigging Instructions Manual.

The Jib Topping Lift shall be rigged as shown in the Rigging Instructions Manual or any arrangement using cord, a ring and a bowsie.

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 Rigging Instructions Manual, but the Mainsail Luff Rings may be substituted with cord ties. The Mainsail Clew Hooks may be substituted with cord.

F.5 Backstay

The Backstay shall be rigged as shown in the Rigging Instructions Manual. It may also include a plastic bead above the lower loop to aid rigging.

F.6 Sail Sheeting

The Jib Sheet for Rigs A & B shall be rigged as shown in the Rigging Instructions. For Rigs D & C Deck Eye 4 will be Used in place of Deck Eye 3. The sheet may then be lead back directly to the Winch Line Clip, or routed through the Mainsheet Bridle Deck Eye and then to the clip.

The Mainsheet for all rigs shall be rigged as shown in the Rigging Instructions Manual.

F.7 Winch Line Elastic

The Winch Line Elastic may be fitted as supplied or tied to Deck Eye 1 and taken directly back to the Winch Line Clip without going through any 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 may be glued in position on the booms. Bands SR1 & SR4 may be removed.

F.9 Bowsies

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

F.10 Backstay Crane

To facilitate fore and aft positioning of the Mainsail head, a second hole may be drilled in the Backstay Crane for attachment of the Mainsail head, but the sail shall be attached to only one of these holes.

Section G - Masts & Booms

G.1 Mast Tube Material

Only tubing supplied by the Licensed Builder is permissible.

G.2 Mast Lengths

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

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

B Rig: 827mm

C Rig: 652mm

D Rig: 590mm

(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 Masthead Plug and glue in the lower Mast Stub.

G.4 Bearings

Supplied Gooseneck bearings can be replaced at any time with either the Licensed Builder's standard bearings or any other metal bearing of size 10mm x 6mm x 3mm.

G.5 Booms

Boom tubes for B, C & D rigs may be cut down from larger Boom kits supplied by the Licensed Builder. All Boom dimensions are available on the website ***www.dfracing.world***

G.6 Silicon Booms Rings

The Silicon Boom Rings supplied by the Licensed Builder may be sustituted by silicon rings cut from other tubing.

Section H - **Sails**

H.1 Usage

Any 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 a maximum of four other suitable positions along the mainsail luff. Metal eyelets may be used to reinforce these holes.

H.3 Battens

All Mainsails shall have four battens with their outer ends positioned within 5mm of points H, I, J & K.

Batten lengths:

A, B & C Rig Mainsails: Top two battens maximum 80mm. Lower two battens maximum 100mm.

D Rig Mainsail: Top batten maximum 50mm. Lower three battens maximum 70mm.

All Jibs shall have no battens.

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 three layers per side at the sail corners and one layer per side at batten ends and Mainsail Luff attachment points.

Sail corner reinforcements shall fit within a radius of the sail corner points (refer to Diagram A) as shown in Table 1 below:

Mainsail luff attachment point patches and batten end patches, at either end of the batten, shall fit within a circle of 35mm diameter

Mainsail luff tabling is not permitted.

Reinforcement Patch Dimensions (Values are maximum radius from appropriate Sail Points) **Table 1**

Sail Point	A Mainsail	B Mainsail	C Mainsail	D Mainsail
A	80mm	80mm	65mm	65mm
G	125mm	125mm	100mm	100mm
L	140mm	140mm	120mm	100mm
Sail Point	**A Jib**	**B Jib**	**C Jib**	**D Jib**
A	80mm	80mm	80mm	60mm
C	80mm	80mm	80mm	80mm
E	100mm	100mm	90mm	90mm

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

The Jib & Mainsail foot shall form a curve as described by full-sized templates available to download from the website ***www.dfracing.world***

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

H.8 Mainsail Luff Curve

The amount of luff curve is optional, but shall be included in the sail cross widths as described in Diagram A and Table 2

H.9 Sail Numbering

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

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 4 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***

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.

Sail numbering applied to sails before 1 June 2023 shall be grandfathered.

(The following has been removed from Version 1.3 of the class rules to bring the DF95 sail numbering rule in line with IRSA Release notes for Appendix E - Identification on Sails *'When the sail number is in the range '00' to '09', the initial '0' shall be omitted and the remaining digit positioned to allow space for both a prefix and a suffix. '0' shall not be used as a prefix'.)*

To aid boat identification for race officials and competitors the sail number, national letter dimensions and spacing are more clearly defined in Tables 3 & 4.

Table 3

Sail Number Dimensions and Spacing

	A & B Rigs		C & D Rigs	
	Min	Max	Min	Max
Height of Individual Sail Numbers	100mm	110mm	100mm	110mm
Width of Individual Sail Numbers (Excluding the Digit 1)	40mm		30mm	
Stroke Thickess of Individual Sail Numbers	10mm		8mm	
Spacing of Adjacent Numbers	15mm		10mm	
Vertical Spacing Between Rows	40mm		20mm	

Table 4

National Letters Dimensions and Spacing

	All Rigs	
	Min	Max
Height of Individual Letter	40mm	50mm
Stroke Thickess of Individual Letters	4mm	
Spacing of Adjacent Letters	7mm	
Vertical Spacing Between Rows	15mm	

H.10 Class Emblem

The DF 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.

DF95 logo shall be 70mm wide. A template will available to download from the website ***www.dfracing.world***

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 two stripes per sail and may be applied to both sides of the sail 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 shall be positioned within a radius of 80mm from the tack point A.

H.13 Sail Telltales and Wind Indicators

Telltales 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 (Refer to Daigram A for Sail Measurement Points) — **Table 2**

		A Mainsail	**B Mainsail**	**C Mainsail**	**D Mainsail**
HEIGHT	**A-B**	75mm	64mm	39mm	58mm
	A-C	249mm	244mm	212mm	197mm
	A-D	495mm	472mm	383mm	360mm
	A-E	766mm	679mm	530mm	498mm
	A-F	976mm	803mm	634mm	570mm
	A-G	992(+/- 2)mm	814(+/- 2)mm	643(+/- 2)mm	580(+/- 2)mm
WIDTH	**B-L**	331(+/- 2)mm	308(+/- 2)mm	251(+/- 2)mm	222(+/- 2)mm
	C-K	309(+/- 2)mm	282(+/- 2)mm	222(+/- 2)mm	196(+/- 2)mm
	D-J	254(+/- 2)mm	219(+/- 2)mm	175(+/- 2)mm	154(+/- 2)mm
	E-I	173(+/- 2)mm	136(+/- 2)mm	118(+/- 2)mm	102(+/- 2)mm
	F-H	86(+/- 2)mm	64(+/- 2)mm	52(+/- 2)mm	55(+/- 2)mm
		A Jib	**B Jib**	**C Jib**	**D Jib**
HEIGHT	**A-B**	65mm	84mm	84mm	88mm
	A-C	940(+/- 2)mm	775(+/- 2)mm	632(+/- 2)mm	543(+/- 2)mm
WIDTH	**B-E**	284(+/- 2)mm	280(+/- 2)mm	243(+/- 2)mm	216(+/- 2)mm
	C-D	15(+/- 1)mm	21(+/- 1)mm	21(+/- 1)mm	14(+/- 1)mm

Diagram A

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Sail Measurement Points