ZEPHYR CLASS RULES

August 2004

1 GENERAL

1.1 Name

The class shall be known as the Zephyr Class. The Zephyr is a one-design class.

1.2 Control

The class shall be administered by the Zephyr Owners' Association (ZOA*)* Inc.

1.3 Policy

1. It is the policy of the ZOA to restrict the hull form and sail plan, while allowing a certain freedom of finish and equipment, so as to ensure that all boats have the same potential speed.
2. It is impossible to define completely every aspect of the craft and thus any aspect deemed to be "not within the spirit of the class rules" may be cause for the refusal of a measurement certificate or for disqualification.
3. It is essential, should an owner wish to deviate from the norm, that an interpretation of class rules be requested in writing from the ZOA.

1.4 General

1. These rules consist of Part 1 General, Part 2 Restrictions and Finishing Instructions for Hulls, Part 3 Equipment, Part 4 Builder's Specifications, Finishing Plans, and the Measurement Form.
2. In the event of a discrepancy between these rules, the measurement form and/or the finishing plans, the matter shall be referred to the ZOA.
3. All boats shall be built in accordance with the class rules.
4. Anything contrary to the spirit of these rules is not permitted.
5. Where doubt exists as to the validity of any matter, it should be referred to the Committee for decision. Where appropriate, the Committee shall have such questions decided by ballot in accordance with Part 1.9 of these rules.
6. Neither Yachting New Zealand (YNZ) nor the ZOA accept any legal responsibility in respect of these rules or any claim arising therefrom.

1.5 Definitions

1. Committee means the Committee of the Zephyr Owners' Association Inc.
2. Registered owners means current financial members of the Zephyr Owners' Association.

1.6 Hulls

1. To maintain the one-design nature of the class, all hulls shall be built by a Builder approved by the Committee and in accordance with the current specifications and plans for the construction of Zephyr hulls.
2. All hulls shall be finished in accordance with Part 2 of these rules (Restrictions and Finishing Instructions for Hulls).

1.7 Sails

1. All sails shall be made by a sailmaker approved by the Committee to the approved pattern and in accordance with the current specifications for the construction of Zephyr sails.
2. No alteration to sails shall be permitted apart from making good flaws during manufacture or for the purpose of making good shrinkage of bolt ropes.

3. All repairs shall be carried out by the sail manufacturer currently appointed for the manufacture of the sails or where sails are unable to be presented to the sailmaker so appointed, by such other maker as may be permitted by the Committee of the ZOA.
4. Owners shall purchase new sails from the ZOA.

1.8 Equipment

All boats shall be equipped in accordance with Part 3 (Equipment) of these rules and the YNZ Safety Regulations Part 1.

1.9 Rule Changes

No changes of rules or restrictions shall be made unless:

1. Notice proposing the change has been given to the Committee in writing and signed by six registered owners.
2. Details of such change, together with relevant details have been circulated to all registered owners, at least six weeks before the vote being taken.
3. The proposed rule change has been approved by two-thirds of the registered owners who have voted.
4. Where voting is being decided at a Special General Meeting called for the purpose, Registered Owners unable to attend may register their vote by mail or by proxy.
5. The proposed rule change will be effective only after approval by the YNZ.

1.10 Registration and Measurement

1. From 1 October 1990, no boat is permitted to race in the class unless it has a valid measurement certificate.
2. A measurement certificate shall be obtained by the owner making application to the local measurer appointed by the Committee. The measurer will complete a measurement form and submit it to the Committee for approval. The Committee will then issue a measurement certificate to the owner.
3. Any peculiarities will be noted by the measurer on the measurement form.
4. Change of ownership invalidates the certificate but shall not necessitate re-measurement. The new owner may apply to the ZOA for a new certificate, returning the old certificate and stating the necessary particulars. A certificate shall be supplied to the owner.
5. It is the owner's responsibility to ensure that the boat, its spars, sails and equipment comply with the class rules at all times and that alterations or replacements to the boat, spars, sails or equipment do not invalidate the certificate.
6. Notwithstanding anything contained in these rules, the YNZ or ZOA shall have the power to refuse to grant a certificate to, or withdraw a certificate from, any boat.
7. Measurers shall not measure a boat, spars, sails, or equipment owned or built by them, or in which they have a vested interest.
8. Templates used for official measurements shall be supplied by the ZOA.
9. Measurement tolerances are intended to allow for genuine building errors only, and shall not be deliberately used to alter the design.
10. Measurers shall report on the measurement form anything that they consider to be a departure from the intended nature and design of the boat, or to be against the general nature of the class. A certificate may be refused even if the specific requirements of the rules are satisfied.

11. All boats, spars, sails and equipment shall comply with current rules applied to them at the time the current certificate was issued. Any alterations or replacements shall comply with the current rules.
12. All boats, spars, sails and equipment shall be liable to re-measurement at the discretion of the ZOA or the race committee,
13. Where these rules are silent on any point of measurement procedure, the International Sailing Federation measurement handbook shall be used.

1.11 Identification Marks

All hulls shall have the registration number issued by the ZOA permanently marked on the keelson.

2 RESTRICTIONS AND FINISHING INSTRUCTIONS FOR HULLS

2.1 Hulls

1. Hulls shall be supplied with deck beams, gunwales, carlins, deckposts, centrethwart, centrecase and mast step permanently fitted. Deckposts are optional. No alteration to the hull as supplied shall be permitted except as provided for herein.
2. The minimum weight of the hull, including all permanently attached fittings shall be 57kg. Permanently attached fittings include chainplates, rudder fittings, cleats and forestay fittings, compass, but exclude centreplate, rudder and all items which rotate with the rudder, blocks, shackles, lashings, sheets, stacking straps, pussy pads, gear bags. Internal ballasting is not permitted.
3. Hulls weighing less than the minimum weight are to be brought up to weight by the addition of lead. This additional weight shall be attached to the upper corners of the outside face of the transom. Weights must be attached to the hull so as to be readily visible.

2.2 Deck

1. The deck shall be of marine ply, not less than 4mm thick and shall be glued down. Deck beams may be rounded to 5mm convex radius.
2. The decking shall completely cover, aft from the stemhead to the main deck beam, the side decks and aft deck. Apertures to a maximum of 20mm diameter shall be allowed, to accommodate the passage of control lines only.

2.3 Beadings

1. Shall be fitted to the gunwales, carlins and main deck beams.
2. External beadings shall not be less than 10mm thickness and must not extend more than 35mm from the shell.
3. Internal beadings shall not be less than 3mm thick and 15mm wide.

2.4 Coamings

1. Shall be set at 60 degrees ± 10 degrees and shall be permanently fixed, on the centreline no further than 130mm aft of the mast and no part shall extend more than 150mm ahead of the mast.
2. Shall be at a minimum height of 65mm from the deck in the mid line, and a minimum of 25mm high if projected to the gunwale.

2.5 Mast Hole Collar

1. A mast collar not less than 20mm high shall be permanently fixed to the deck.
2. The mast hole shall be 2625mm ± 10mm from the outside face of the tuck to the centre of the hole.
3. The hole shall be a 65mm ± 2mm diameter circle.

2.6 Mast Step

Maximum height 90mm from keel to topside of step. Any fitting which stands more than 5mm above the timber step installed by the builder shall be added to the measured length of the mast.

2.7 Chainplates

Chainplates shall be fitted with centre of shackle eye not more than 2371mm from the aft face of the transom.

2.8 Floor Battens

1. At least two floor battens 6mm x 45mm minimum sizes shall be fitted per side, parallel to centreline of boat.
2. Minimum total length 6000mm.
3. Except that where full side bulkheads are fitted, the minimum length may be reduced to 4000mm.

2.9 Buoyancy

1. A minimum of 0.2 cubic metres and it shall comply with YNZ Safety Regulations Part 1.
2. Bulkheads are permitted and recommended and may enclose the whole or part of the area covered by the deck.

3 EQUIPMENT

3.1 Masts

Timber masts shall conform to the following dimensions:

- Overall length 5640 mm max.
- Sizes:
    - at 1100mm from heel the fore and aft dimensions should be between 73mm and 95mm, the athwartships between 58mm and 76mm
    - at 3800mm from heel the fore and aft dimensions should be between 70 and 95mm, the athwartships between 53mm and 63mm
    - at 100mm from top the fore and aft dimensions should be between 36mm and 63mm, the athwartships between 21mm and 47mm

2. Aluminium masts shall be Baverstock BS5 or Standard McKechnie die 57.15 round section with track attached, supplied by a manufacturer approved by the ZOA Committee to the following specifications:
    - Overall length 5640mm max.
    - Taper to start within 3500 and 4000mm from the heel and be 22 ± 2mm at 5500mm from the heel (excluding the sail track), in both side and fore/aft dimensions.
    - Mast to be supplied with a welded top cap, sail track cut away to maximum of 1000mm above the heel.
3. Weight: minimum weight shall be 5.4kg when stripped of all shrouds, stays, halyards and fittings not permanently attached to the spar. Make weights shall be added to the mast tangs.
4. The mast shall not revolve. The heel may slide freely fore and aft to a maximum of 20mm. No adjuster may be applied to the heel of the mast while sailing.
5. Rigging:
    - Two side stays and one forestay shall be fitted.
    - The forestay may be adjusted from the cockpit. The sidestays shall not be adjusted while sailing.

- A halyard complying with YNZ Safety Requirements shall be fitted.
- No other rigging is permitted.
- Stays shall be attached to the mast between 3810mm and 4115mm from the heel..

3.2 Booms

1. Timber booms shall comply with the following dimensions:
   - Overall length 2690mm max (from aft face of mast)
   - Circular size 63mm ± 6mm.
2. Aluminium booms shall be Baverstock BS5 or Standard McKechnie die 57.15 round section with track attached, and built to the following specifications:
   - Overall length 2690mm max (from aft face of mast)
   - To be supplied by a manufacturer approved by the ZOA Committee with the sail track cut away not more than 180mm from the aft face of the mast.
3. Minimum weight shall be 2.7kg when stripped.
4. Boom vangs are permitted.

3.3 Mainsheet

1. The mainsheet shall be operated off the centrethwart.
2. Mainsail may not be sheeted outboard of carlin.

3.4 Centreplate

1. Shall fit within a rectangle 1370 x 292mm.
2. Maximum thickness shall be 22mm.
3. Shape is optional.

3.5 Rudder

1. Blade shall fit within a rectangle 900 x 292mm.
2. Maximum thickness shall be 22mm.
3. Minimum size shall be 500 x 180mm.
4. Blade may be fixed or mounted in stocks.
5. Shape is optional.
6. The steering pivot axis for the rudder and stocks shall not be more than 100mm aft of the transom.

3.6 Venturis

Are permitted and/or a maximum of 2 stern drains, each to have a maximum area of 5400 square mm.

3.7 Cunningham Eye

The sail luff tension may be adjusted from the cockpit while sailing by the use of a Cunningham eye in the sail.

3.8 Items Not Permitted

Sliding seats, spreaders, trapezes, ballast, weight jackets, additional decking, and false flooring.

4 BUILDER'S SPECIFICATIONS

4.1 The Builder's Responsibility

1. Zephyr hulls shall be built by a builder approved by the ZOA Committee.
2. The hulls shall be built strictly in accordance with the Zephyr Class Rules – Parts 1,2 and 4**.** The builder shall keep the objectives and policies set out in Part 1 uppermost while constructing Zephyr hulls.
3. The builder shall be answerable to the ZOA Committee and/or its representatives.

4. Where doubt exists as to the validity of any matter, it should be referred to the Committee for decisions.
5. Hulls shall be purchased only by the ZOA.

4.2 Quality of Work and Materials

1. All work carried out by the builder and his/her employees, shall be to a standard that is recognised and accepted as good trade practice.
2. All timber and materials used shall be the best of their type available. No second grade or faulty materials shall be used.
3. There shall be no change of materials or building methods, from this specification by the builder without the specific permission of the ZOA Committee and where deemed necessary, the vote of owners in accordance with Part 1.9 (Rule Changes).

4.3 Hull Shell

1. Shells shall be built over a male mould approved by the ZOA for the construction of Zephyr hulls. No alterations shall be made to this mould without the inspection and specific permission of the Committee.
2. Shells shall be constructed using either triple skin diagonal cold moulding or single skin strip plank, glassed both sides.
   - **Triple skin diagonal cold moulding**: the shell shall be constructed of three skins of 2mm approved timber.
   - **Single skin strip plank, glassed both sides***:* the shell shall be one skin of 7mm Western red cedar or equivalent, planks edge glued with an approved marine glue. Each glass skin shall be a minimum weight of 6oz E-Glass combining to a total glass weight of 16oz laid in epoxy resin.

4.4 Framing Timbers

1. These items shall be made in accordance with the plans and patterns supplied by the ZOA.

Part	Material	Min. Dimensions (mm)	Notes
Transom	Clear Timber Marine Plywood	20 thick 18 thick	Shape as shown in template
Keelson	Clear Timber	70 x 20	Tapers to 40mm at stem and 50mm at transom
Stem	Clear Timber	50 x 20	Shape as shown in template
Fore Deck King Plank	Clear Timber	114 x 20	Shape to deck camber. May be tapered to min 75mm wide foreward of mid foredeck bulkhead beam.
Aft Foredeck Trans Beam	Clear Timber	44 x 20	May have 5mm radius
Mid Foredeck Trans Beam (Bulkhead)	Clear Timber	44 x 20	May have 5mm radius
Fwd Foredeck Trans Beam (Cockpit)	Clear Timber	32 x 20	May have 5mm radius
Aft Deck King Plank	Clear Timber	52 x 20	May have 5mm radius
Aft Deck Transverse Beam	Clear Timber	44 x 20	May have 5mm radius
Aft Deck Post		25 Diam	Dowel
Foredeck Post		25 Diam	Dowel

Centrecase Sides	Clear Timber Marine Plywood	20 thick 18 thick	Shape as shown in template
Centrecase Centrespacer	Clear Timber	22 thick	Cut out centre for board
Carlin	Clear Timber	20 x 20	
Gunwale	Clear Timber	16 x 20	Tapers to 8mm at either end
Centre Thwart	Clear Timber	40 x 20	Minimum dimension is at centre

2. Material for the following parts, where not stated in the rules, should be shown as follows;

Rule	Part	Material	Min. dimensions (mm)	Notes
2.3 – 2	External Beadings	Any timber	10 thick	Fitted to Gunwales and top of transom
2.3 – 3	Internal Beadings		15 x 3	Fitted to carlins and cockpit deck beams
2.5 – 4	Mast Hole Collar	Any timber or Marine Plywood	20mm high	65mm +/- 2 diam circle
2.4 – 5	Coamings			Min height 65mm at centre, 25mm at gunwale
2.6	Mast Step	Clear Timber	100 x 20	
	Mast Step Webs	Clear Timber	20 thick	Max 90mm from keel to topside of step
2.8	Floor Battens	Clear Timber	45 x 6	2 per side, 6000mm or 4000mm if full side tanks fitted.
4.3 – 2	Hull Shell	Clear Timber	Min. 2mm per skin	Triple skin diagonal cold moulding.

3. Hulls shall be supplied by the builder with these framing timbers glued in place permanently.

4.5 Finish and Supply

1. This specification covers the minimum work by the builder for the supply of Zephyr hulls.
2. No hull shall be released by the builder to an owner until it has been inspected and approved by the Committee and/or its representative, as meeting this minimum specification.