

# Zephyr Class Rule Interpretations

Updated 22 February 2023

## Zephyr Class Rule #

### 1.1

**The Zephyr is a One Design Class. For hull shells, sails and spars, Closed Class rules apply and for these items, anything not specifically permitted by the class rules is prohibited.**

Source: - Graeme Robinson ZOA Exec meeting October 2018 – quoted from World Sailing Measurers Manual.

### Hulls

#### 2.1.1

*No alteration to the hull as supplied shall be permitted except as provided for herein.*

For the **Mackay Boats GRP** hulls the following initial purchase options are available: -

A choice of mainsheet traveller, rope bridle or hoop assembly.

Two stern scuppers may be installed during the build by Mackay Boats. Scuppers are not to be retro fitted by owners.

Rudder gudgeon fittings are optional, provided attachment is via bolt fastenings through the internal plywood re-enforcing. Gudgeons glued and moulded to the hull are not permitted.

Deck cleat brands are optional.

The stay attachment fittings, the mast collar fitting and venturis must remain as supplied.

Source: - ZOA Committee under Zephyr Class Rules - clause 4.3.4.

#### 2.1.2

*Minimum weight of the completed hull, including the following fittings, shall be 58kgs. Included fittings are: - chain plates, fixed rudder fittings, cleats, hiking straps, buoyancy bags, blocks, mainsheet take off system, control lines including vang, cunningham, traveller and forestay control lines, compass, drink bottle holder. Excluded are: - mainsheet, centreboard, rudder and all items that rotate with the rudder, gear bags, loose bailers, sponges, drink bottles.*

For the purposes of this rule 'fittings' includes the items that are specifically listed, even those not 'fixed'. Rudder fittings fastened to the hull (fixed with bolts, screws or rivets) or bonded to the hull (fixed with glues, resins etc.) are part of the hull when it is weighed. A pintle permanently fixed to its associated transom-mounted bracket is deemed to be a part of the hull for weighing purposes. A pintle that is not fixed to the associated bracket is not permitted to be included in the hull weight.

Source: - ZOA Exec Ruling 23 Aug 2021.

The gear bag is not considered a water bottle holder for the purposes of weighing.

Source: - ZOA Exec Ruling 20 Feb 2023.

### Side tank/Hull joint:

#### 2.1.4

E-glass taping of the side-tank to hull with up to 220 gm cloth laid over a coaming is permitted either side of the side tank plywood.

Rule: - 2.1.4

### Decorative carbon fibre and fittings made from carbon fibre

#### 2.1.5

Clear-coated carbon cloth added for aesthetic enhancement is permitted. Examples: -

Deck rub pads, chain plate surrounds, centre thwart wrapping, gunwale wrapping, coaming sheathing, centre case capping and mast-hole trim-wraps.

Any carbon fitting, either fastened to or moulded into hulls is permitted. Examples: -

Rudder stocks, tillers, tiller extensions, fixed rudder fittings, transom venturi flaps, transom handles, chain plates, mounting brackets, mainsheet take off systems, block mountings, hiking strap fixtures, control line tubing and commercially available fittings with carbon content.

Rule ballot 2019

### **Other carbon usage**

Existing carbon fitted to hulls not otherwise prescribed within the rules but deemed by the Chief Measurer and Exec to be non-performance enhancing may be eligible for dispensation.

Rule 1.10.14 provides a boat-by-boat assessment process.

Some existing examples - but not limited to: -

Patch repairs, side tank to hull joint taping, bulkhead to hull joint taping, mast step web taping and any carbon application similar to the decorative carbon as described above but painted.

Application for dispensation shall be submitted to the ZOA Secretary along with a description of the carbon usage.

Applications will be referred to the Chief Measurer who will assess each boat on its individual merits.

### **Deck**

#### **2.2**

An additional panel of plywood reinforcing or the addition of athwartship deck beams are permitted under the side decks.

Source: - Common practice, ZOA Handbook recommendation 2009, Rule: - Part D (4) October 1990 rules

E-glass up to 220 gm attached with resin on both sides of the plywood side decks is permitted.

Rule: - 2.1.4

### **Side-stay chainplates**

Originally, Zephyr side-stay chainplates were bolted through the cockpit front deck beam. By the late 1950s they were permitted 172 mm forward of this beam. In 1998 the measuring of chainplates transferred to the transom, but their maximum forward location remained the same.

#### **2.7**

The 2371 mm measurement from the aft face of the transom must be measured parallel to the waterline. For measuring purposes, the bow is approximately 140mm above the transom's deck centreline and this line is approximately parallel to the waterline.

Source: - 1956 Townson lines drawing.

Side-stay chainplates may extend beyond the hull outer skin but must not extend beyond the deck beading.

Source: - Graeme Robinson November 2020

### **Bulkheads**

#### **2.9.2 also 2.1.1 and 4.5.3**

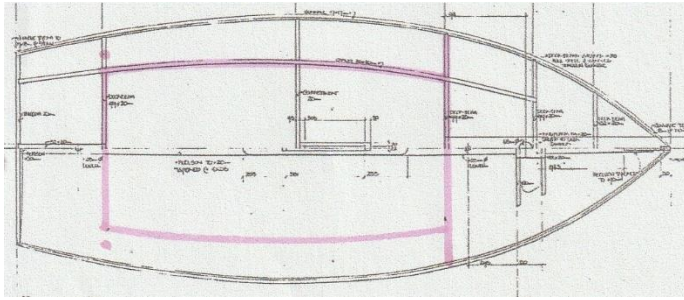
*Bulkheads and buoyancy tanks are permitted and recommended and may enclose the whole or part of the area covered by the deck.*

From 1956 to 2020 Zephyrs were fitted with plywood bulkheads, most being owner or boatbuilder installed. The 600 series hull bulkheads were fitted by Salthouse Boats to a configuration specified by the ZOA.

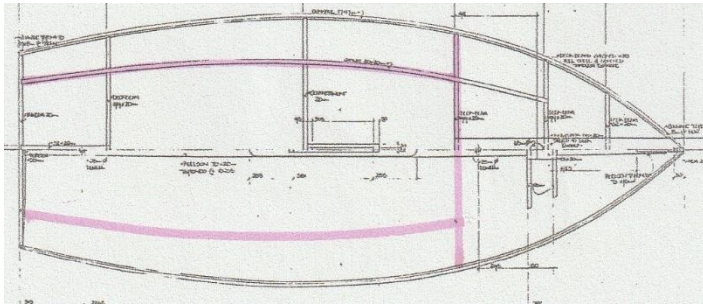
Class practice has been a combination of bulkhead configurations as detailed below. During refurbishment owners are permitted to reposition or reconfigure bulkheads to these combinations. Salthouse 600 series hulls may similarly be repositioned.

Mackay Boats 700 series hulls are covered by Rule 4.3.4 and reconfiguring bulkheads are not permitted.

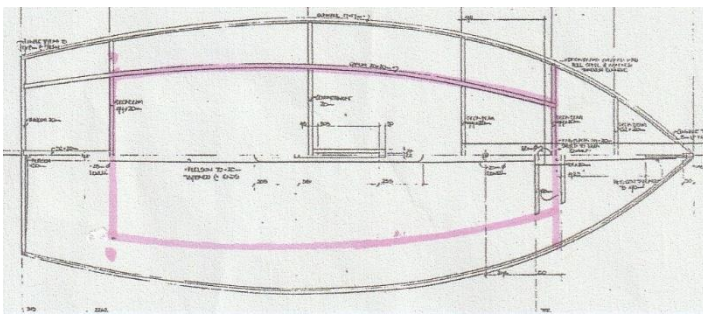
Source: ZOA Executive meeting Aug 2022



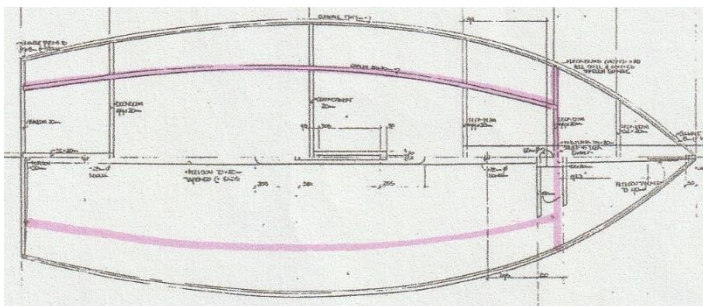
Full width bulkhead front of cockpit.  
Full or partial width rear cockpit bulkhead.  
Adjoining side tanks.



Full width bulkhead front of cockpit.  
Side tanks from bulkhead to transom.



Full width bulkhead forward of mast  
Full or partial width rear cockpit bulkhead.  
Adjoining side tanks.



Full width bulkhead forward of mast  
Side tanks from bulkhead to transom.

## Masts

### 3.1.1

*The maximum overall length of the mast shall be 5640mm, measured from the upper bearing surface of the halyard sheave to the point of contact with the mast step fitting.*

The upper bearing surface of the halyard sheave is at the bottom of the groove in the sheave. It may be determined as being at the lower edge of the halyard when at 90° to the spar, following the procedure for determining the spinnaker hoist height as described in the Equipment Rules of Sailing.

### 3.1.3

*Aluminium masts shall be supplied by a manufacturer to a specification approved by the ZOA Committee.*

A sealant may be added between the mast sheave box and the top end of the tapered aluminium tube section to prevent water entry. Owner-attached fittings may be similarly sealed.  
Source: - Common practice.

The masthead sheave box is welded to the top end of a tapered aluminium tube and therefore is part of the mast supplied under Class Rule 3.1.3.

The mast sheave box cannot be modified from that supplied by a manufacturer, other than to remove any surplus aluminium above the extrusion sail track that would otherwise prevent the sail from being fully raised to the underside of the halyard sheave.

Cutting the supplied mast to length off the bottom is permitted to ensure that the overall length complies with Class Rule 3.1.1.

Source: - Graeme Robinson and ZOA Exec, August 2021.

### Rigging

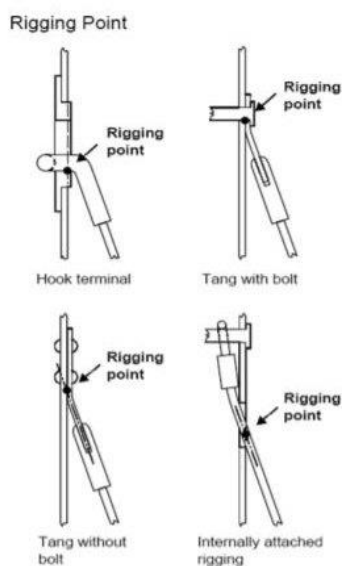
#### 3.1.6

*The halyard shall be wholly external to the mast.* An internal halyard is not permitted. External halyards enable masts to be built watertight to assist recovery after capsizing.

*The halyard may not be adjusted while racing, except to briefly effect repairs.*

Source: - ZOA Exec Ruling, Feb 2022.

For the purposes of establishing a stay intersection with the mast, a 'Rigging Point' is defined as: -



#### Rigging Point

For a hook terminal, the rigging point is the lower bearing surface where the hook rests on the mast cutout.

For a tang attached to the mast with a bolt, the rigging point is the lower face of the bolt.

For a tang without a bolt, the rigging point is the point where the stay extension intersects with the mast.

For internally attached stays, the rigging point is the location where the stay and the outside surface of the mast intersect.

**World Sailing Measurers Manual, Section J, para 7**

### Booms

#### 3.2.2

*The sail track may be cutaway not more than 200mm from the forward end of the boom.*

The forward end of the boom is the front face of the boom plug.

A sail that has been intentionally pulled from the remaining boom track violates class rules 1.1 and 3.2.2. The sail boltrope must remain within the adjacent sail track.

Source: - Graeme Robinson November 2020

### Centrecase

The centrecase slot forward face must be between 1805 mm +/- 10 mm from the transom.

Source: - November 2003 Bakewell-White #00-02 Zephyr plan, which in turn was scaled off the 1956 Townson lines drawing.

### 3.4

Centre cases may have a faring-flaps on the underside of the hull.

Ruling: - ZOA Executive, September 2009.

#### 3.4.2.

Centre cases may have shaping material to fit closely around the shape of the centreplate. If it is within the centrecase, then it can be considered a fairing flap and/or an internal wedge, both of which are permitted by this rule. The rule is silent on what material may be used, which can be an issue with one-design & closed class rules, but on the basis of materials currently being used under this rule, and the practical use of materials to make flaps, straps, and wedges, it is my opinion that there is no restriction on what materials might be used for these items, except that the use of carbon fibre is prohibited under Class Rule 3.8.2 and is not specifically permitted under Rule 3.4.2.

Source: - Graeme Robinson, November 2021

#### 3.4.3

A horizontal timber gusset may be glued either side of the centrecase adjoining the centre thwart. This must not extend more than 50mm forward of the thwart, 50mm outboard of the centrecase and not extend above or below the thwart.

Rule ballot, October 2019

### Rudder

#### 3.5.

The design and construction of the rudder, rudder blade and tiller are optional. The Class Rules specify a maximum rudder thickness of 22mm. Class rules are silent on the operation of the rudder. Refer to World Sailing's ERS Rule C.2.2 and Zephyr Class Rules 1.1 to 1.4. - "Where doubt exists as to the validity of any matter, it should be referred to the Committee for a decision."

*The rudder may not be raised or lowered while racing except briefly in the case of grounding or entanglement.*

Source: -ZOA Exec ruling 21 November 2022

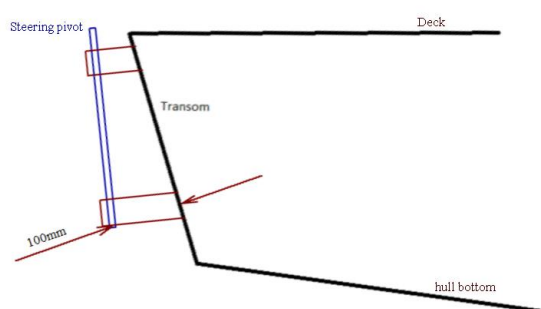
### Rudder Stock

#### 3.5.3

*The steering pivot axis for the rudder and stocks shall not be more than 100mm aft of the transom.*

For the purposes of class rule 3.5.3 the distance to the steering pivot centreline is to be measured adjacent to the gudgeons.

Source: - ZOA Exec Ruling August 2021



### Cunningham Eye

#### 3.7

*The sail luff tension may be adjusted while sailing.*

It was suggested this rule also permitted adjusting luff tension via the halyard, but the ZOA Exec decided this was a non-normal Zephyr practice and ruled: -

*"The halyard may not be adjusted while racing, except to briefly effect repairs."*

ZOA Exec ruling 20 Feb 2023

## **Items Not Permitted**

### **3.8**

Carbon fibre sheathing of hulls is not permitted.

Ruling: - Prohibited by the ZOA Executive in June 2012 and reaffirmed at a ZOA Executive meeting in Oct 2018.

Incorporated in Class Rules, October 2019.

## **Electronic Aids**

### **3.9**

Digital compasses and timing devices are permitted and all other electronic aids are prohibited.

A trial interpretation is that other electronic aids, including watches, and fitness devices that incorporate other features such as position and course tracking etc., and cameras are permitted, provided that data from such devices cannot be accessed on board when racing or between racing. To remove any doubt, establishing and accessing information on the starting line and locations of marks using electronic devices is prohibited while racing.

ZOA 2022 AGM motion - passed unanimously.

## **Hull Shell**

### **4.3**

GRP hulls must have a not less than 9mm plywood transom doubler. Substitution with a composite doubler is not permitted. Glass fibre covering over wood or plywood is permitted.

Rule: 4.3.3 and 2.1.4

## **Framing Timbers**

### **4.4**

The transom can either be made from 20 mm clear timber or 18 mm plywood. No composite panel material or combination of plywood and clear timber is permitted.

Source: - Graeme Robinson May 2019, confirmed ZOA Exec email vote 2019

#### **4.4.1**

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

Townson built hulls were built with 3/4inch (19 mm) scantling materials. To satisfy the requirements of rules 1.3.3 and 4.5.3, during any refurbishment work on Townson built hulls, owners must ensure replacement timbers are 19mm minimum thickness. This enables rebuilders to replace 'like-with-like' and avoid deviating from the norm.

Applicable rules 1.3.3 and 4.5.3. Source: - Graeme Robinson, July 2021

### **4.5**

These items shall be made in accordance with the plans and patterns supplied by the ZOA but can be modified up to a 5 mm radius on the exposed edges.

Hole-saw lightening of deck beams, keelson or king planks is not permitted. These holes represent a modification to the 'as-supplied' status of a hull and contravene various clauses contained in class rules 4.4 and 4.5.

The non-compliant component can either be replaced or the holes filled with solid timber plugs.

Source: - Graeme Robinson Feb 2018 and July 2021.