

Measurement Committee

Amendment No 4
to
AC72 Class Rule

(Version 1.1: 22nd February, 2011)

1.

Remove:

10.2 If shrouds are adjusted while racing, the port and starboard shrouds shall be connected in a master-slave relationship so they always have the same extension. For the avoidance of doubt, the **wing** shall not be canted to windward.

Replace with:

10.2 **Wing** Canting limitations:

- (a) Shrouds shall be attached to the **wing** within 6.000 m of **Hoist Point B**, to the hulls or cross structure at a distance greater than 5.500 m from the **yacht centerplane**, and have an EA no less than 15MN
- (b) The port and starboard shrouds referred to in 10.2(a), if adjustable, shall be connected in a master-slave relationship so they always have the same extension and attachment.
- (c) An **AC72 Yacht** shall satisfy one of the following options:
 - (i) **OPTION 1**
 - (a) With the **wing** stepped and the yacht otherwise in **measurement condition**, the shrouds referred to in 10.2(a) and forestay between **Hoist Point B** and **Tack Point B** shall be set so that the port and starboard shrouds each have at least 5000N of tension with the forestay at its minimum adjustable length.
 - (b) These shrouds shall not be adjusted while racing and this forestay shall not be capable of more than 100mm of adjustment while racing, The forestay shall remain attached at **Hoist Point B** and **Tack Point B** and shall have an EA no less than 30 MN.
 - (ii) **OPTION 2**

With the **wing** stepped and the yacht otherwise in **measurement condition**, the shrouds referred to in 10.2(a) and forestay between **Hoist Point B** and **Tack Point B** shall be configured so that the port and starboard shrouds each have at least 5000N of tension through the full range of rake with the **wing**

stepped and the yacht otherwise in **measurement condition**. The yacht shall race with the same configuration(s) as was demonstrated to determine compliance with this option. The forestay shall remain attached at **Hoist Point B** and **Tack Point B** and have an EA no less than 30 MN.

(iii) **OPTION 3**

The yacht, while racing, shall maintain tension on the windward shroud referred to in 10.2(a) greater than 2500N (based on a 10 second moving average). Compliance with this option shall be capable of being demonstrated in a manner acceptable to the **Measurement Committee**.

This requirement does not apply prior to starting; within 30 seconds of tacking or gybing; within 300m of a mark; when taking a penalty; when lowering or furling a **soft sail**; or when sailing above an upwind proper course and when sailing below a downwind proper course.

2.

Add to Appendix A – Measurement Certificate, page 2:

Under heading – **Wing**, add:

Wing constraint option (10.2(d)) _____

3.

Remove:

19 STORED POWER

19.1 **Rigging, wing, soft sails, rudders and daggerboards** shall only be adjusted manually, and the use of stored energy is prohibited, except:

- (a) for small springs, shockcord, and similar devices;
- (b) low pressure hydraulic or gas accumulators of less than 6 bar which provide back pressure to a hydraulic system to prevent cavitation, but do no significant work themselves;
- (c) batteries to power electric bilge pumps, provided the total capacity of all pumps is not greater than 200 l/min; and
- (d) batteries to power instruments and ACRM media equipment.

Replace with:

19 MANUAL POWER AND STORED ENERGY

- 19.1 Only manual power (the force exerted by crew) or the effect of direct contact with wind and/or water shall be used for the adjustment of **rigging, wing, soft sails, rudders and daggerboards**.
- 19.2 The use of stored energy and non-manual power is prohibited, except:
- (a) for small springs, shock cord, and similar devices;
 - (b) low pressure hydraulic or gas accumulators of less than 6 bar which provide back pressure to a hydraulic system to prevent cavitation, but do no significant work themselves;
 - (c) batteries to power electric bilge pumps, provided the total capacity of all pumps is not greater than 200 l/min;
 - (d) batteries to power instruments, on board crew communication and ACRM media equipment; and
 - (e) for electrical operation of
 - (i) hydraulic valves. These operations shall only provide the input for the position of the valve;
 - (ii) drive clutches in winch systems.

The valves and drive clutches referred to in (i) and (ii) above, shall be commercially available and Competitors shall have had these approved by the Measurement Committee for use via an issued interpretation.

The operation for (i) and (ii) above, shall not receive external input from any source other than manual input. Any data acquisition system, associated sensors or electronics shall be physically separate and completely isolated from any electrical operation referred to in (i) and (ii) with the exception of the voltage supply. The manual input may latch the valve(s) or clutch(es), operate multiple valves or clutches, and /or provide variable position. Valves and clutches may be operated from multiple manual inputs.

These systems may be hard wired directly between the manual inputs and shall be hard wired between the manual inputs and the valve(s) or clutch(es). Wiring shall be clearly identifiable. Electrical energy used for this shall only be stored in batteries, including small capacitors.

4.

Remove:

- 11.1 Rigging, including any rigging fairings shall have a girth no greater than 0.150 m, and a chord length/thickness ratio no greater than 3:1

Replace with:

- 11.1 **Rigging**, including any **rigging** fairings, shall have:
- (a) a chord length/thickness ratio no greater than 3:1;
 - (b) a girth no greater than 0.150 m except within 0.750 m of a **rigging** termination point or point of attachment of the **rigging** to the **hull(s)**, **cross structure**, or **wing**.

This amendment is issued in accordance with Rule 4 of the **AC72 Class Rule** Version 1.1: 22nd February, 2011, and has been approved by all Competitors entitled to vote as of 24 November 2011, pursuant to article 5.2 of the Protocol Governing the 34th America's Cup. Authorized signatures are on file with the **Measurement Committee**.

Issued by:



Nick Nicholson, Chairman
Shaun Ritson
Carlos de Beltran
AC 34 Measurement Committee

Approved by:

Iain Murray
Regatta Director

The Regatta Director certifies that this amendment to **AC72 Class Rule** Version 1.1 has been approved in accordance with the requirements of **AC72 Class Rule 4**.

24 November 2011
