



WPPA Rule Book 2010 Addendum

Rule updates approved January 2010 onwards:

Part 4 Event Rules

20. Participation Rules Applies all Classes

New text added to paragraph 1:

The WPPA and its associate governing bodies, National Authorities and organising clubs reserve the right of entry of any team or competitor and has the right to accept or reject entry/eligibility at the discretion of the WPPA on the grounds of the unsuitability of any entrant for reasons such as and not limited to unsportsmanlike conduct, bringing the sport into disrepute.

04. Championship

Each race will be awarded full points under the new 2 race weekend format.
Normal rules regarding curtailment such as 50% or 70% of published race distance etc apply.
All Races carry points with no discards.

22. FUELLING

No Fuelling and/or decanting is permitted on race day or between Pole Position and race 1.
X cat fuelling is as published timetable in race instructions.

28. POLE POSITION

Under the 2 race per weekend format the following applies:
Pole Position will be held as part of the final practice session on Race day 1 unless otherwise stated in the race instructions or posted by race bulletin as change due to unforeseen local conditions or weather.

No more than 50 KG can be added to a boat between Pole Position and Race 1

29.02. RACE LENGTH

Under the 2 race per weekend format the following applies:

Race 1 (Approx 50% of Single Race format)
Minimum 6 and a maximum 11 Race Laps + 1 Long Lap
Maximum time limit 35 minutes.

Race 2 (Approx 70% of Single Race format)



Minimum 8 and a maximum 13 + 2 race laps + 2 Long Laps
Maximum time limit 45 minutes.
Number of laps will be subject to the different venue and course constraints

29.03. LONG LAP

It is mandatory for all boats to complete the Long laps as specified in the race instructions, at any time from the start of the second Lap. (Lap one is defined as Green Flag to Lap/Finish line)

29.05 START CHUTE

Under review for 2010 Season: Proposed reduction to 1.0 miles to slow the arrival speed of boats at the first turn.

Minimum Length - The recommended minimum starting chute length shall be 1.5 miles before the first turn

35.06. TIME LIMIT

Under the 2 Race weekend Format the time limit is as follows:

Race 1

Maximum Time limit of 35 minutes. The chequered flag will be waved when the lead boat crosses the finishing line after the 35 minute time limit, and all boats finish as they complete that lap.
In the event of an accident and a red flag Pace Boat procedure is used time limit is 45 Minutes

Race 2

Maximum Time limit of 45 minutes. The chequered flag will be waved when the lead boat crosses the finishing line after the 45 minute time limit, and all boats finish as they complete that lap.

In the event of an accident and a red flag Pace Boat procedure is used time limit is 55 Minutes

The number of laps completed by the 'winning boat' will determine the number of laps for the 70% rule. Alternate distance may be set by Race Instruction.

44. HULL DIMENSIONS AND MINIMUM WEIGHTS

- Any hull built after 1st January 2001, measuring 12.19/13.41m (40/44 feet) and weighing a minimum of 4950kg after race completion.
- Any hull measuring 11.5/13m using the 790 hp Naturally aspirated engines and weighing 4250kg after race completion.

Applies to Class 1 and X cat

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- Liquid Ballasting is not permitted to be pumped in from the sea or pumped overboard during Race or pole Position.

44.03 ESCAPE HATCH

All canopied race boats racing from January 2010 must have a secondary escape hatch in the tunnel.

50.01 Maximum Permitted noise levels

- The maximum permitted noise levels from any individual competing boat in a WPPA Class 1 race is 100 Decibels +5%
- Penalty per season 1st offence 10 championship points + 1000Euro fine
2nd Offence 10 championship points + 5000 Euro fine
Subsequent Offences 15 championship points + 7500 Euro Fine

52 Propellers

- 1) From 1st January 2009 There will be 1 supplier of propellers for Class1
- 2) The Propellers thickness cannot be altered, and will be specified by the manufacturer and or the WPPA, disqualification will result for modified propellers
- 3) Propeller cup may be altered; however, this will void any warranty claim that may arise. The manufacturer will specify the areas that can be modified.
- 4) The propellers will be produced from the manufactures C1 specified material only
- 5) 3 different pairs of propellers per boat will be allowed. Propellers can only be changed for the identical type as those initially registered due to damage or wear. In that event it must be reported to the Technical Commissioner, It may then be replaced and the registered number will be cancelled from the eligibility records, and the new number submitted.
- 6) New propellers will be stamped at the end of the first World Championship, Pole or Race in which they were first used, and will be registered by the Technical Commissioner.
- 7) Propellers will be allocated to a boat, for use on that boat only. For instance a two boat team may not swap registered propellers from one boat to the other. However a two boat team with less than 4 sets of registered propellers may use them on either boat
- 8) 1x set of propellers can be changed for a different diameter or pitch during the racing season. Prior permission must be obtained by THE WPPA in writing
- 9) Replacement warranty of Propellers, is only for material failure and doesn't include misuse or damage

55. ENGINE BONUS POINTS

Under the 2 race per weekend format the following applies:

All existing WPPA Bonus point rules remain, in addition the Pole position in the scenarios is replaced by Race 1 of the weekend. Race 2 remains the defining changing and completion point for the bonus points



Part 5 EXTREME CAT - 6 LITRE RULES

02. HULLS MINIMUM/MAXIMUM LENGTHS AND WEIGHTS

From January 2010 all X cat boats are to have 80 kgs to the minimum weight of each boat regardless of boat length. To allow for increased canopy strength.

Min kg 1755kg

Appendix 2 On Water Procedures and Guidelines

01.02. POLE POSITION PROCEDURE

Timed session following practice session and break, duration to be as described in Race Instructions No maximum number of laps will apply. All other Pole position procedures apply.

Race 1 Start/Pole order is determined by the Pole Position results.

Race 2 Start/Pole order is determined by the Race 1 result i.e. winner position 1

04. RACE STOPPED/PACE BOAT PROCEDURE Applies all Classes

All Races - In the event of a race boat capsizing racing will be immediately Red Flagged until the incident is under control. Pace boat procedure will then commence as per rule and/or race instruction.

The following extract replaces WPPA 2009-2012 Appendix 4 Technical Notes 03 Crew Safety, 04 Drawings and Measurements, 05 Reinforced Cockpit Area and Canopy, 07 In the Restrained Cockpit.

Canopy Rules and Crew Safety

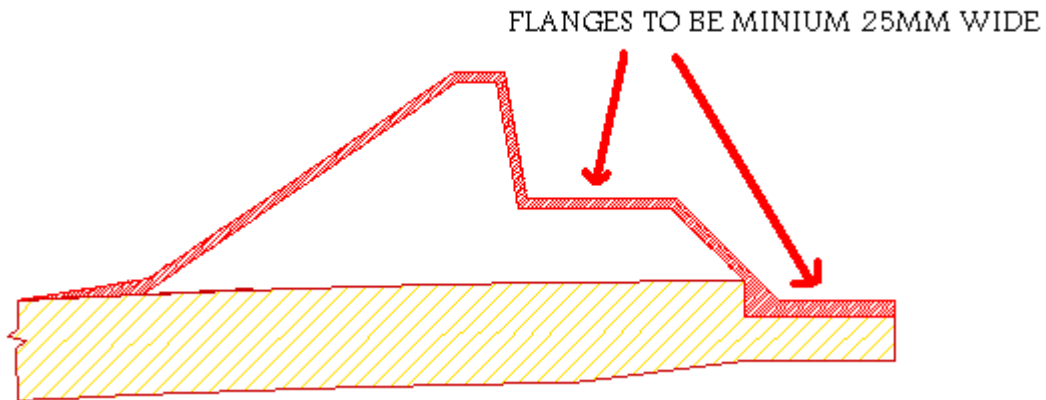
1. All Class 1 and Xcat boats must be equipped with a Reinforced Canopy/Cockpit, it is defined as a containment area for the crew and should be constructed as an integral part of the boat or suitably attached to boat if a drop in cell is fitted this should be complete with reinforced shield/crunch zones. This Reinforced Cockpit Area must be designed and constructed to a specification capable of withstanding the forces of a water impact when running at the highest design speed of the boat.
2. Xcat all new boats built after January 2010 must conform to the 2010 rules, All current boats to be assessed if water deflectors and crunch zones can be fitted. Any boat failing to carry out the



Technical recommendations will not be eligible to race. **All other canopy rules apply to the current boats.**

3. C1 all new boats built after January 2010 must conform to the 2010 rules, All current boats to be assessed if crunch zones and side water deflectors can be fitted. Any boat failing to carry out the Technical recommendations will not be eligible to race. **All other canopy rules apply to the current boats.**
4. **New build manufacturers should contact the WPPA for any planned rule updates due to the development program of canopy structure and safety designs.**
5. **C1 any boat that does not comply to the 2010 canopy rules will be speed restricted to 100MPH**
6. Class 1 minimum weight to be increased to 4950kg to allow for the extra structure.
7. Xcat is to have 80kgs added to the minimum weight of each boat regardless of boat length.
8. As a recommended target for design and construction an impact pressure 20 tones per square meter should be met or exceeded, with the highest importance given to protecting the crew in the event of severe accident. Any specification or safety device over and above the requirements will be assessed and supported as required.
9. The extremity of a Reinforced Cockpit comprises of a **canopy, forward and rear bulkheads, sides, floor, and water deflectors.** Additionally the cockpit is to be protected by a reinforced shield fitted into the boat surrounding the cockpit with a cavity between to form a 'crunch zone'.
10. Mandatory Water impact deflectors surrounding the cockpit, designed with a shape and structure so that the water is diverted around the cockpit and away from the crew in the event of the boat being breached to be fitted. There shall be no openings within the exterior confines of the impact shield/crunch zone allowing the forced ingress of water.
11. A continuous fitted structural framework inside the cockpit must be installed reducing the unsupported panel area sizes of the cockpit cell lining. The framework will incorporate roll bars fore and aft of the hatch with extensions to support the screen aperture divisions, the rear bulkhead directly behind each seat and the top escape hatch flange. The flange is to be a minimum of 25mm width (New build boats must have a minimum of 50mm) measured across the flange recess, with the hatch opening measuring 0.55m by 0.825m at the widest points. The canopy apertures should be cut with all corners having a radius of minimum 25mm. The radius should be constant and have a smooth finish to relieve stress. The canopy aperture must have a 20 mm wide (minimum) fluorescent orange band around the opening. All boats are recommended to use the double flange method of installation as per the graphic below. All new

build boats 2010 onwards must use the double flange installation.



12. There must be a minimum of 1 compression strut installed to support the canopy.
13. The main hatch being directly above the crew's helmets and its supporting flange must have further reinforcement to maintain its shape under stress and be able to withstand the impact of the water and retain its ability to function. The hatch thickness must be maintained throughout and not reduced at the flange where possible. The hatch should be protected by water deflectors incorporating internal and external method of prizing open the hatch caused by water pressure or binding to assist in emergency underwater rescue and escape.
14. The hatch shall be fitted with a catch which has a positive open and positive close mechanism and should hold the hatch against lateral forces. These catches shall be able to be opened from both inside and outside the cockpit and must have a second emergency mechanism to allow the rescue team to easily remove the hatch from outside if necessary. The hatch should be fitted with hinges with large bases and backing plates to spread the load and short release pins. This is important, because long pins invariably bind the hinge. It should be considered that the hinge centers be as far apart as possible. The release mechanism or hinges must not encroach within the canopy aperture area, and must not in any way hinder the exiting of crew members when fully race fitted. It is recommended that the catch have at least 2 locking points as far apart as possible, whilst still maintaining head clearance. It should be operated by a single handle with the addition of individual mechanisms internally in case of jamming. The hatch must be removable when the quick release hinge pins are removed. The locking mechanism must protect against both forward and aft stuffing
15. Mandatory secondary tunnel escape hatch, it is strongly recommended that polycarbonate windows are applied to the tunnel hatch to help illuminate the cockpit for ease of escape.



Alternatively a waterproof light which is activated by water and/or being inverted with its own power source is fitted.

16. Canopy hatches and release handles, must be painted fluorescent orange or have a fluorescent orange background panel to identify them, with directional arrows to indicate the method of opening must be provided both inside and out.
17. There should be one or more divers' grab handles fitted to the outside of the top hatch.
18. **The clearance between and around the crews helmet and the canopy must be a minimum of 120mm.**
19. It is mandatory to close the canopy hatch, and for the hatch to remain closed during all racing and practice.
20. Raised sections above deck level, including hatches and openings, connected to the canopy, at least to the extent of the mandatory water deflection zones must be structural and comply with the 'Reinforced cockpit area' rule. Any hatch within this area must have the same strength as the main cockpit hatch.
21. Cockpit seating must be side by side seating only.
22. The Cockpit should have flood tubes or other means of flooding the cockpit to equalize the pressure quickly in an accident. The floor of the cockpit should be as airtight as possible when in an upturned position. It is mandatory that sufficient buoyancy is provided in the boat, or in the material used for its construction, to ensure that the boat floats if capsized or holed, the hull should float as parallel with the surface of the water as is practical, to help in rescue accessibility. If extra buoyancy is needed, the buoyancy system described by the designer should be verified by the Measurer. This added buoyancy must be in at least four separate flotation units.
23. The various components that constitute the Reinforced Cockpit shall be properly maintained to ensure reliable operation of all components, with emphasis being placed on the canopy release mechanisms, emergency air supply and restraint systems, in accordance to the latest WPPA or UIM cockpit guidelines.

Windscreens

1. Polycarbonate (**Acrylic will not be accepted**) areas are strongly recommended to be as small as possible, while still maintaining that the pilot and co-pilot have clear, safe and undisturbed visibility ahead at sea level whilst racing. it is strongly recommended that these polycarbonate areas are built using 12 mm thickness, or more.



2. The combined visibility the pilot and co-pilot must be through a horizontal arc of 225 degrees (112.5 degrees either side of the centre line of the boat).
3. These polycarbonate panels are to be recessed into the composite structure and should be bonded using a suitable bonding agent, and/or “bobbins” (**Bonding the Windscreen is the recommended method of fitment. Boats built after January 2010 must use bonding only, to fit the windscreen no bobbins will be allowed**)
4. It is highly recommended that there is also a through bolted outer flange for the fitting of the polycarbonate panels.
5. Screen flanges should be a minimum of 50 mm, if bobbins are to be used they should be fastened every 100 mm it is recommended to use metal bobbins” with heads, as opposed to the recessed plastic type.
6. The outer polycarbonate area of the flange fitting must not be painted, so that the measurer / scrutineer may monitor any discrepancies.

Seats and Seatbelts Side of head protection

1. Cockpits must be fitted with **rear and side** of head protection for each crew member. This must be an integral part of the seat, which must be attached directly to the structure of the Restraint Compartment. The head protection must be a minimum of 0.2m wide and extend at least 80% of the height of the safety helmet as worn by the crew whilst in the normal seating position. There must be a minimum of 0.12m vertical and lateral clearance between the canopy and each of the crewmembers when in the normal seating position.
2. The Restraint System must consist of a 5 or 6 strap harness and should utilise a 75 mm lap belt, a 50 mm strap over the shoulder harness rated at 4,100kg (9,000 lb.) and grommeted to prevent chafing or cutting of the belt. Harness straps must be attached directly to the cockpit structure. Those straps close behind the driver's head and neck must be 100 mm to 150 mm apart at point of attachment. The shoulder harness should be installed at 90 degrees to the spine at shoulder line to minimize compression injuries under high “G” loading. All straps must be free to run through intermediate loops or clamps/buckles. All anchor point bolts must be fitted with backing plates of 10cm minimum width. The driver harness attachment bolts in reinforced cockpits must consist of minimum grade EN8 bolts, with an 8 x 1.25 mm thread and locked nuts. There must be a spacer and plain washers on each bolt. The spacers must be glued to the cockpit structure. Intention of these spacers is to prevent buckling of surface material near bolts. This always leads to local delamination which easily spreads out over cockpit structure, when it is under stress.
3. On the sides of the structure, which has to take up the force on the attachment bolts, there must be a stainless steel plate (washer of minimum 3 mm thickness and 100 cm² area).



4. When using seats with suspension, and therefore not using a bulkhead restraint anchorage, drawings must be lodged with the National Authority of the measurer and approved prior to boat measurement.
5. All restraint systems must have a common method of release. The single lever method (sometimes called the NASCAR type) or rotary type, are both acceptable restraint release systems. Both types of restraint release must be examined for satisfactory operation by the scrutineer before every race.
6. The shoulder harness should be installed 90 degrees to the spine at shoulder line to minimise compression injuries and the high "G" loading. 75 mm minimum/maximum to Centre line of Lap Belt at Seat Back, Seat Bottom junction. Lap Belt should continue in straight line to anchorage.

DRAWINGS AND MEASUREMENT

Drawings of the Reinforced Crew Canopy/Cockpit to be supplied will include the following

1. The type of Canopy, Plan, side and elevation.
2. the Bulkheads and buoyancy system
3. Restraint System anchorage Points
4. Canopy aperture dimensions
5. The type and method and construction of release devices.
6. Material specification of the transparent areas.
7. Water impact deflectors and crunch zones
8. Material mechanical property data of the canopy, hatch, cockpit and crunch zones, running surfaces should be provided in support of the drawings to establish a database for future assessment and analysis.

Prior to Boat Measurement the drawing and material specifications shall be sent to the Measurer requested to measure the boat. On completion of measurement, the drawings and material specifications called for by the designer shall be lodged with the measurers National Authority before they issue a certificate of compliance and measurement. **Drawings must also be submitted to the WPPA for all entries to WPPA races prior to racing.**

The construction, strength safety and conformity to meet and exceed the recommended requirements is the sole responsibility of the boat owner and or boat builder. All points of impact incidence to the canopy, hatch and screens, (as being a primary impact area) cockpit and crunch zone extremities should be afforded the diligence deserved in protecting the crew. Any scrutineering or measurement by the WPPA officials is not condition/construction survey.

Reference: Also 44.01 MEASUREMENT CERTIFICATE.

REINFORCED COCKPIT AREA AND CANOPY MANDATORY REQUIRMENTS

1. One single air supply (not oxygen) and a bottle will be provided for each riding crew member. The air supply must be securely fixed adjacent to, or on each one of them. It is recommended that sufficient air be provided in each individual bottle for ten minutes.

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2. Air bottles must have a pressure gauge fitted for visual checking at pre-race scrutineering. This gauge should be filled with liquid and be at least 5 cm in diameter for easy reading.
3. Air supply bottles shall be "Turned On" before starting a race or taking part in practice and/or testing. All air hoses to be secured and mouthpieces to be placed within reach of the pilots and mounted on retainers
4. Diving Masks for each crew member, stowed securely and accessible.
5. A minimum of 1 belt cutter or knife is to be secured in the cockpit
6. Stop buttons/switches located in the cockpit area, immediately accessible to the crew and rescue officers. The stop buttons/switches must be identified by a fluorescent colour. These switches must shut off all fuel pumps as well as the ignition circuit.
7. A White High Intensity Strobe Light fitted to indicate "coming off the plane". The strobe light must be able to be operated by both crewman, and should be operated if a problem occurs, to enable any following race boats to take avoiding action. The strobe light shall be mounted on the top rear of the canopy. This strobe light may also be used as a substitute for the orange retirement flag when returning to port under reduced power.
8. A quick release steering wheel must be fitted on all boats but all pilots must be able to exit the cockpit without removing the steering wheel.
9. Rear view mirrors are mandatory, as well as a method of cleaning the canopy whilst underway.
10. Two fire extinguishers, each a minimum of 2kg must be carried and be readily accessible to the crew. All crew containment areas of inboard engine canopied boats must be fitted with a carbon-monoxide alarm.
11. Racing Vests - the efficiency of the racing vest is a matter of the exclusive responsibility of the wearer. Every crew member whilst on board must wear a racing vest during the practice runs and throughout the race. Racing vests must be colored high visibility orange or yellow. The racing vest must have epaulets/handles to help extract crew from the boat. The racing vest must have crutch straps or a method of ensuring that the vest does not "ride up".

Notes

"Cool Suits" - may contain any proven safe fluid or gas cooling agent other than Freon.

Eye protections - must be constructed of shatterproof material. Eyeglasses shall not be accepted as eye protection.

The Race Director - or Technical Director may prohibit use of any equipment he deems unfit for service.

Violation - of safety rules will result in a penalty assessed by the Race Director in conjunction with the Medical and Safety Director.

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