

Rule Exceptions for Turbo Charged Outlaw Class Boats Only

The minimum age for competitors in the Turbo Charged Outlaw class shall be 16 years of age for drivers and 14 years of age for navigators. Proof of age will be required on request of any WCJSC official.

Turbo Charged Outlaw class boats are bound to the same general rules governing general specifications for International Group A class of boat with the following exceptions applied;

1. Hull

- 1.1. The current approved hull design is the Scorpion jet sprint hull. This type of hull shall be constructed of fibreglass in strict accordance with the Turbo Charged Outlaw class hull regulations as described in Appendix 1. Other materials and hull designs may be submitted to the WCJSC committee for approval to compete in this class. Application to include other designs and materials must be submitted to the committee in writing at least 28 days prior to the commencement of any race season. The application must be submitted with design diagrams of proposed hull and must include full technical details of the materials to be incorporated in the construction of the proposed hull and deck structure.
- 1.2. In all cases the construction of the hull and deck structure of any boat should be to an engineering standard deemed suitable for the material being used.
- 1.3. The structural integrity of the hull is ultimately the responsibility of the boat owner. The WCJSC advise that all owners should seek advice from a person or persons with the appropriate level of expertise in assessing the usage of the material being used. It is strongly recommended as a minimum that any person building a new hull employ the services of a recognised and experienced fibreglass boat builder.
- 1.4. The hull and deck weight of this class of boat is to be no less than 120Kg (hull and deck only, bare weight)

2. Jet Unit

- 2.1. Single unit only, of a maximum 210mm (8 1/4 inches) diameter.
- 2.2. Jet unit shall be direct drive (ie: no gearboxes) otherwise no restriction.

3. Engine

- 3.1. The only currently approved engine is a Toyota 1UZ-FE 4.0 litre 32-valve, quad cam, V8. Other 4.0 litre capacity all alloy engines may be deemed acceptable. For other engine types to be considered a written application must be made to the WCJSC committee at least 28 days prior to the commencement of any race season.
- 3.2. Unless otherwise noted with in the rules below, all engine components shall remain stock (OEM) throughout, this applies in particular to;
 - Block, crank, rods, pistons
 - Heads, valves, cams, ports
 - Lower section inlet manifold
 - Ignition system
- 3.3. Unless otherwise stated all engine components shall be to OEM specifications. The term "Stock" implies that the use of aftermarket replacement engine

components such as titanium or other lightweight products is not permitted within this class.

- 3.4. Modifications are permitted to the head studs to replace original torque to yield (stretch type) bolts.
- 3.5. Oiling system – Wet or Dry sump systems are permitted
- 3.6. Other modifications from stock components may under certain be considered by the WCJSC Committee and must be submitted to the committee in writing for consideration prior to the commencement of a race season. All submissions for approval to allow additional engine modifications must be accompanied with full technical details and specifications of the proposed modification and the reason why this application should be considered for this class. The committee ruling on any such application will be final and appeals against the ruling will not be considered.
- 3.7. The engines of the Turbo Charged Outlaw class boats may have certain external modifications made as follows;
The engine may be fitted with a single turbo charger.
 - T 76 Ball bearing water cooled turbo unit.
 - T 76
 - Waste gate 50mm (Pre set boost). 15psi maximum.
 - Engine management shall be an EMS “Stinger” pre set with a predefined ECU map.
 - The predefined ECU map will be provided by the West Coast Jet Sprint Club (inc)

Note:

The WCJSC will provide the predefined engine management map to each team competing in the Turbo Charged Outlaw class.

Alterations to the engine management map for the purpose of testing will be permitted for non points scoring events (such as test and tune). Alterations to the predefined engine management map are not permitted for race events without prior approval from the WCJSC committee.

In the event that the engine management map changes are approved by the club, an updated engine management map will be made available to all competitors in this class. The WCJSC reserves the right for the scrutineers to check the engine management map for compliance and/or upload the predefined engine management map at any time.

- Throttle body shall be 85mm maximum internal diameter
- Intercooler open
- Exhaust system open in relation to design and must be fitted with suitable muffler to reduce exhaust noise. All exhaust systems must comply with the WCJSC noise regulations.

4. Fuel

- 4.1. Any brand 98 Octane Premium Unleaded
- 4.2. The use of any nitrous oxide or nitro Methane type fuels is prohibited.
- 4.3. The use of octane boosters or other fuel supplements is not permitted.

5. Roll Cage Construction Materials

5.1. Only round tubing is deemed acceptable for the construction of the roll cage.

5.2. Chrome Molly Tube

5.2.1. Minimum diameter 38.1 mm (1.50 inches), wall thickness 2.1 mm (0.083 inches).

5.3. Aluminium Tube

5.3.1. Minimum diameter 48 mm (1.88 inches). Maximum diameter: 60mm (2.36 inches).

5.3.2. Minimum wall thickness for the two main loops of the roll cage is 4mm.

5.3.3. Minimum wall thickness of the balance of the roll cage structure is 3mm (0.120 inches).

5.4. Recommendation

Although aluminium is acceptable (for Turbo Charged Outlaw and restricted class boats only), it is highly recommended that 4130 chrome moly tube, as described by in the International Group A, be adopted for all new roll cages being constructed.

In each case (aluminium or chrome moly) design and bar work must comply with the International Group A methods and recommended diagrams.

6. Front impact protection bars

It is compulsory for all fibreglass hulls to be fitted frontal impact protection for the protection of the driver and navigator.

6.1. Front impact protection shall consist of the following

- Floor pan
- Side intrusion bars
- Front intrusion bars

6.2. The frontal protection is required to fully protect the crew's legs and feet in the event of a frontal impact to the hull. Refer to the design guideline drawings in Appendix 2.

7. Safety equipment

7.1. Battery switch accessible to both driver and navigator.

7.2. Fuel shut-off device is required, the position of the safety fuel shut off shall be in such a location that can be easily accessed by the safety crew should it be required.

7.3. Safety harnesses must be fitted for both crew members and be securely attached to the roll cage, chine or the seat base bearers.

7.4. All harnesses must be of an approved motor sport type with a minimum of 75mm webbing.

7.5. All harnesses shall be a minimum 4 point attachment style, 5 or 6 point harnesses highly recommended. The release mechanism must be a lever action, quick release buckle.

- 7.6. Harnesses with push lock or twist action buckles are not permitted.
- 7.7. Anchor points for the seat belt harness must be attached directly to the roll cage and/or the seat/chine bearers and/or the engine bearers
- 7.8. Anchor points which are not acceptable include: any part of the engine, any part of the hull sides or unsupported deck.
- 7.9. The mounting point for the shoulder straps behind each crew member must be between a line horizontal to the shoulders, and a line drawn downward from the shoulders at an angle of approximately 25 degrees to the horizontal.
- 7.10. If the shoulder straps join prior to a single common mounting point, then that junction shall be at least 150mm behind the crew member's neck.
- 7.11. Any safety harness with frayed webbing or worn or broken stitching or corroded buckles will be rejected and must be replaced.

8. Special Advisory Notes:

- 8.1. All Turbo Charged Outlaw class boats will be required to strictly conform to the above rules and requirements and in addition to these rules all teams competing in this class shall comply with the general rules and regulations and code of conduct of the West Coast Jet Sprint Club inc.
- 8.2. Any existing boats that were constructed prior to the date of acceptance of these rules must be made to comply with these rules and regulations. Under all circumstances a boat must be of a sound construction for both hull and roll cage and must comply with all safety requirements.
- 8.3. It will be at the discretion of the WCJSC Committee in conjunction with the chief scrutineer to accept or deny any boat to be suitable for jet sprint racing.
- 8.4. No guarantee is implied or stated, nor is any responsibility taken for the clubs acceptance of a boat for racing and does not imply acceptance of structural integrity or suitability. Under all circumstances this remains the sole responsibility of the owner/driver to verify that the integrity of the craft is suitable for its intended purpose.
- 8.5. In the event any boat competing in the Turbo Charged Outlaw class does consistently equal or out performs the International Group A class of boats the said boat shall be required to compete and conform to the rules and regulations of the International Group A class.

Appendix 1

As from the introduction of the Turbo Charged Outlaw Class, the Scorpion Jet Sprint boat hull and deck mould designs have been accepted for the Turbo Charged Outlaw Class. As stated in Section 1.1 of the rule exceptions for the Turbo Charged Outlaw Class, “other materials and hull designs may be submitted to the WCJSC committee for approval to compete in this class.”

The combined hull and deck weight of any boat in this class shall be as stated in section 1.1.4. This rule applies to all hulls for this class (both new and existing). Existing hulls that are proposed for use in this class will be required to be inspected by the WCJSC scrutineering personnel prior to the fit out of the boat.

In this instance the hull should be presented for inspection bare of any fitments including roll cage and jet unit.

Although the WCJSC scrutineers will perform a visual inspection and may accept an existing hull to compete in this class, this does not guarantee or imply that the underlying structural integrity of the boat is suitable for its intended purpose, see section 1.1.3 for responsibilities

The scrutineer’s decision on acceptability of a hull for competition is final and any hull rejected by the scrutineers will not be allowed to compete in this class.

All fibreglass hulls must be constructed using quality Glass Reinforced Polyester (GRP) in conjunction with a quality vinyl ester resin (see Figure 2 for lay up).

During the hull construction best practices for the production of fibreglass boats shall be used at all stages. Manufacturer’s recommendations and guidelines for handling and application of the products should be adhered to with particular attention paid to the appropriate atmospheric conditions being correct during the construction process. It is the recommendation of the WCJSC that any person considering the construction of a fibreglass hull for this class employ the services of a recognised and experienced fibreglass boat builder.

The foam sandwich must run the complete length of the hull excluding topsides, stem curve and jet intake area. (Refer Figure 1)

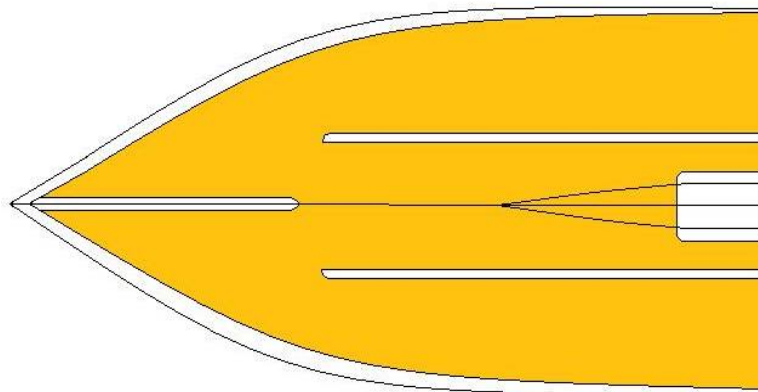


Figure 1: Foam Placement Diagram

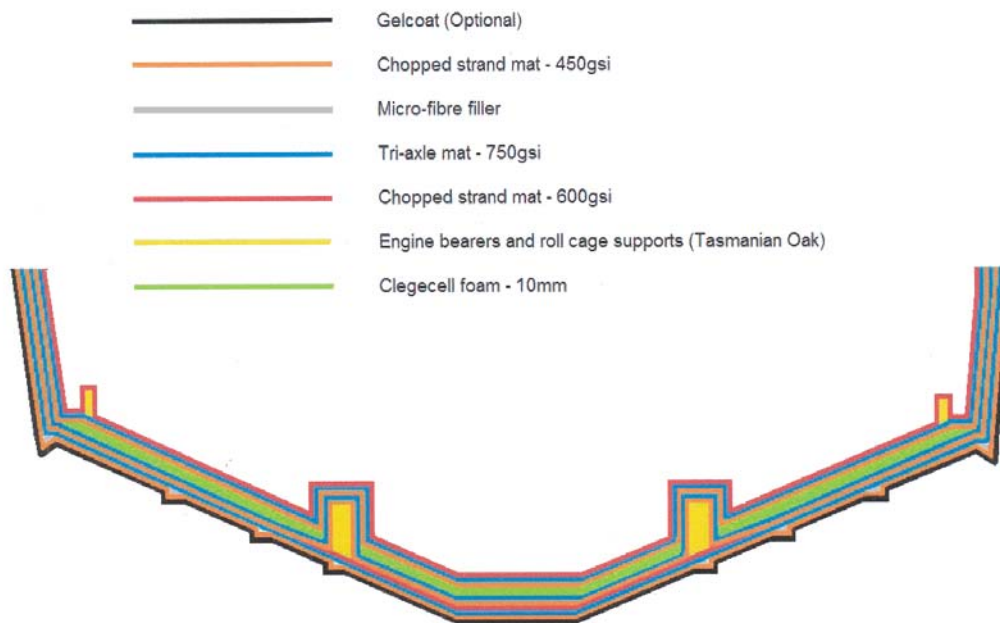


Figure 2: Glass Reinforce Polyester Lay-up Diagram

Appendix 2

Frontal impact protection bars

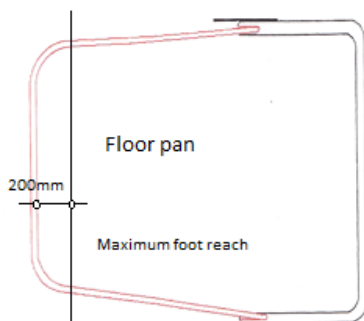
Outlaw class fibreglass hulls must be fitted with frontal protection bars that are securely welded or bolted to the main roll cage to protect the occupant's legs in the event of a collision.

The bar work is to extend a minimum of 200mm past the driver and navigators feet when seated in the driving position.

The frontal protection bar work is to be constructed of the same material as the roll cage to which it is attached (aluminium or chrome moly tubing).

The tubing is to be a minimum diameter of 25mm and a minimum wall thickness of 4 mm.

The following diagrams are provide here as a guide only and are not intended as a structural design. It is recommended that the owner consult with a suitable structural engineer to ensure the design is suitable for the purpose intended.



Plan view – not to scale



Side View - not to scale

