
# American Sprint Boat Racing
# Sporting & Technical Regulations
# 2026 Race Season

# FOREWORD:

American Sprint Boat Racing (ASBR) strives to make sprint boat racing highly competitive, affordable, and entertaining for fans and competitors. These Sporting & Technical Regulations govern all ASBR-sanctioned events and are designed to be as transparent as possible. We wish every participant a safe and successful 2026 season.

# Warranty Disclaimer:

These rules are guidelines only. Safety of equipment and participation is the sole responsibility of every participant. No express or implied safety warranty is created by these regulations or compliance with them.

**NOTHING CONTAINED HEREIN SHOULD BE CONSTRUED AS A GUARANTEE AGAINST INJURY OR DEATH TO PARTICIPANTS, BYSTANDERS, OR SPECTATORS.**

These regulations apply solely to ASBR-sanctioned events.

**Questions and/or comments will be addressed direct to ASBR**
**E-mailing: info@asbracing.com**

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# SPORTING REGULATIONS

## 1 - General Definitions:

### 1.1 DNF - Did Not Finish

The driver did not successfully complete the designated course rotation. Wrecking, beaching, or otherwise needing assistance from the safety crew constitutes a DNF. Receiving a DNF during a qualifying round means no time is awarded for that round. Receiving a DNF in every qualifying round means the driver does not qualify for the elimination rounds. Receiving a DNF during the elimination rounds automatically eliminates the driver from the remainder of the event.

### 1.2 DNS - Did Not Start

The driver was unable to start a run within 5 minutes of the call to start. Receiving a DNS during a qualifying round means no time is awarded for that round. Receiving a DNS in every qualifying round means no time is awarded and the driver does not qualify for the elimination rounds. Receiving a DNS during the elimination rounds automatically eliminates the driver from the remainder of the event.

### 1.3 DQ - Disqualified

Any participant disqualified from a sanctioned points event — by the sanctioning body or their appointed representative, for any reason — immediately forfeits all entry fees, prize money and points accrued for the event.

### 1.4 Protest

A protest must be filed in writing within one hour after the end of that day's racing. ASBR will review the issue and issue a ruling within 24 hours of submission.

### 1.5 Underway

Engine running, pump operating and able to propel itself under its own power.

### 1.6 Red Flag Condition/Cold Track

Non-race condition. Either a red flag is displayed, or the boat is grounded or otherwise not underway.

### 1.7 Green Flag Condition/Hot Track

Race / green flag conditions. When underway in race conditions, a boat remains under a green flag until under the command of the race controller and being trailered.

### 1.8 U-turn

A complete reversal in direction. When a boat becomes misdirected and/or spins out in a channel, the direction can be reversed to get back on course under section 3.2.

### 1.9 Trailered

Boat fully onto the trailer, chain attached and trailer pulled from the water.

### 1.10 Launch Area

The area of water where boats are launched before entering the start lane and where they return after completing a rotation to be trailered.

### 1.11 Start Lane

The area the boat enters after being launched to approach the actual starting line to begin an official rotation.

### 1.12 Finish Area

Also known as the Spin-out Pool. This is the area where boats enter after completing a rotation at full speed and slow down before returning to the launch area to be trailered.

# 2 - General Regulations:

## 2.1 Membership

Drivers, navigators, and all active pit crew must be current members of the ASBR.

## 2.2 Maintain Professional Appearances

Drivers, navigators, and active crew members must wear professional-appearing collared crew shirts or race suits during events or while participating in fan or media activities (e.g., show-and-shine, parades, static displays).

## 2.3 Tech Inspection

All Boats and Drivers must comply with the ASBR's technical inspection list.

## 2.4 Pre Race Requirements

Crew and boat registration and technical inspection must be completed prior to launching the boat.

## 2.5 Minimum Age

The minimum ages are listed per class

## 2.6 Team Requirement:

Each boat team shall consist of a driver and a navigator.

## 2.7 Registered Team

Once a driver and navigator register as a team, only they may compete in that boat. Driver and Navigator may not switch seats during an event. A Navigator may be replaced for good cause during qualifying rounds only, with racing committee approval. Both must be paid ASBR/APBA members; all forms, ID, age, and membership requirements apply. No navigator changes allowed during elimination rounds. No switching back during the event.

## 2.8 Running Multiple Classes

A racer can run in two different classes as long as he is running two different boats, has been issued a racing license for each class the driver chooses to compete in, and has paid separate entry fees for each class.

## 2.9 Safety Equipment

Safety equipment listed in this document is mandatory any time the boat is underway—no exceptions. If a neck restraint or helmet becomes undone, flies off, or any safety equipment/restraint is removed under green flag conditions, a DNF is assigned for that round. This rule will be strictly enforced.

## 2.10 Launch /Exit Channel Speed

Boats must not exceed the speed necessary to maintain forward motion in the launch and finish areas.

## 2.11 A/B Driving Boats

No more than 1 team per boat will be allowed, unless otherwise approved by the ASBR for that event. Requests for 2 teams per boat must be requested in writing or email 7 days prior to upcoming event.

## 2.12 Drivers Meeting

Drivers and navigators must attend the drivers' meeting prior to the event. Failure to attend the drivers' meeting without ASBR written or email approval will result in disqualification for that day and possibly for the event.

## 2.13 Starting Order / Lane Assignment

After starting order is set, notify the Race Controller or Launch Master immediately if a boat cannot start in its assigned position for good reason. The team receives five minutes after the call to start (once the 60-second window expires). If the boat starts within five minutes, it is inserted into the next available slot. Failure to meet the five-minute limit results in DNS. A 10-minute clock applies for 6-cut and 3-cut rounds.

## 2.14 Race Event Protests

All Protests during the race event shall be presented to the Race Controller by one member from the challenging team. If more than one member of the challenging team approaches the Race Controller with a protest, that protest will be rejected by the Race Controller and may not be filed again.

## 2.15 Minimum Class Requirements

A minimum of 5 boats are required at a race to run for series points, but 3 physical boats are required to allow that class to be recognized for the season

## 2.16 Noise limitations

Track owners or event promoters must notify the ASBR of any restrictions prior to the beginning of the racing season.

## 2.17 FLAGS/LIGHT TREE

GREEN - Starter flag.
RED - Course closed.
BLACK - Disqualification, leave course.

## 2.18 Staging Area

Once the boat is in the staging area, and at idle speed, the green flag will wave, signaling the boat to begin. The actual timing will start as the boat crosses a fixed reference point.

## 2.19 Clogged Pump

If the boat fails to launch due to a plugged pump intake-grate, the driver may elect to waive off the run prior to the second turn and immediately return to the pit area and rectify the issue. Five minutes will be given to correct the problem and get re-staged. If the problem cannot be rectified and the boat restaged within the 5-minute period, the boat will receive a DNF for the round. A maximum of two restarts after a failed start due to a plugged pump intake grate will be allowed per round. No waive-offs are allowed for mechanical problems; the driver must attempt to run the course or return to the pits and take a DNF.

## 2.20 Compliance of Regulations

The race officials have the authority to investigate boats for the compliance of regulations at any time during an event.

## 2.21 Boat numbers

Boat numbers must be requested from and assigned by the ASBR and will remain the property of the participant as long as the number is entered into at least one sanctioned event during the past 2 seasons. If a number becomes inactive due to non-participation, it can then be assigned to a new owner by the ASBR Secretary.

## 2.22 Race Dates

All event promoters and tracks must schedule their race dates by an ASBR approved deadline, in order to hold an ASBR sanctioned points event, no later than December 1st.

# 3 - Running the Course:

### 3.1 Rotation

The boat must follow the exact rotation as designated for the event, otherwise it is considered a DNF

### 3.2 Cutting the Course and Picking up the rotation

Cutting the course results in a DNF with no time awarded. Other rotation errors may be corrected by returning to the channel in which the error occurred and navigating the corner correctly. Example: If you are in channel #1 and mistakenly turn right into channel #2 instead of left into channel #3, you must go back to channel #1 and properly enter channel #3.

### 3.3 "Beaching"

"Beaching" occurs when a boat leaves the water, goes up on land, and all forward motion stops. It also includes being touched by the safety crew or an occupant unbuckling their safety harness. Any of these conditions results in a DNF for that run.

### 3.4 DNF

Upon realizing you are lost, the driver will exit the course immediately, via the shortest and safest route possible. DNF awarded.

### 3.5 START and FINISH Channel

While racing, a boat must not re-enter the start channel or enter the finish chute and then return to the track. Reduce speed and return to the trailer. This results in a DNF. The race controller may impose an additional penalty.

# 4 - Scoring System:

## 4.1 Accruing Points

Boat drivers will accrue points throughout the season at each sanctioned points event that they participate in. This system will lead to a season ending champion in each class.

## 4.2 Point Per Class

Points are accrued in the class that the driver enters in each sanctioned points event and will be totaled separately for each class. The points a driver earns in one class can't be combined with points for another class.

## 4.3 Awarding Points

Any driver who fails to make it into the elimination rounds will be placed and awarded points based on the fastest time.

## 4.4 TIES

There will be no ties. To break a tie in the final points awarded for each event, the scoring will go back to the previous elimination round or the previous qualification round if necessary. The boat successfully running the fastest, most recent round will be awarded the higher position.

## 4.5 No Qualified Run(s)

No placement points will be awarded to a driver that doesn't successfully complete at least one qualifying run.

## 4.6 For scoring purposes

a DNF will score higher than a DNS. Multiple DNF's or DNS's in the elimination rounds will be scored by going back to the previous elimination round or the previous qualification round if necessary. The boat successfully running the fastest, most recent round will be awarded the higher position.

## 4.7 Points

Points are awarded on the following scale for each sanctioned points event:
3 points for showing up and entering a boat in the event.
7 points for successfully qualifying, plus an additional:
8 points for successfully qualifying fastest for each class.
1 point less for each subsequent qualifying position. (i.e. 7 for 2nd, 6 for 3rd etc.)
70 Points for 1st place finish. 5 Points less for each subsequent finishing position (i.e. 65 for 2nd, 60 for 3rd). Points will be awarded to all boats in each class that have run a successful qualifying round, from fastest in the elimination round, to slowest in the qualifying round.

# 5 - Race Format:

## 5.1 Race Entry

Race teams must pay their entry fee and sign the required paperwork to enter the event during technical inspection (usually held the evening prior to race day) and up to (1) one hour prior to the scheduled Drivers Meeting, (Entry Deadline), on race day. No entries will be allowed after the Entry Deadline without ASBR approval. Teams arriving late on race day, due to travel problems, may call ahead and have a proxy pay their entry fee to enter the event, anytime, prior to the Entry Deadline. However, the entry fee is nonrefundable if the team fails to show up in time to race.

## 5.2 TECH INSPECTION

All teams/ boats must pass technical inspection prior to the scheduled Drivers Meeting, or the team will not be allowed to participate in the event and will forfeit all entry fees and points for that event.

## 5.3 Sanctioned Race Format

A sanctioned race will consist of qualifying rounds for each class. A random drawing by ASBR will determine the running order. A new race order will be drawn for each individual race event of the season.

## 5.4 Running Order

All entrants must run in the specific order of placement as determined by the ASBR, with the following exception: entrants who fall under the 5-minute rule may be temporarily replaced by the next boat in order as determined by the launch controller in the same class.

## 5.5 Elimination Round Qualification

At the completion of the qualifying rounds, the top qualified boats in each class, based on fastest time, which successfully made a qualifying round, will advance to the first elimination round. The boats will run in an order from slowest to fastest.

## 5.6 Elimination Rounds

Elimination rounds will be determined by boat count ending in a three-boat final. Depending on the class boat count could start with 9-Cut, followed by a 6-Cut then final 3-Cut

## 5.7 Sponsor Rides

All Sponsor Rides must be approved by ASBR prior to the event. ASBR will determine the number of Sponsor Rides, and all rides will follow course rotation for that day's race.

## 5.8 Checkered-Flag Lap

All checkered-flag runs begin at the start gate and will run along the outside of track with 2 runs maximum.

## 5.9 "Hot-Dogging"

Excessive speed, "hot-dogging", spraying of the water from the jet-pump at personnel, or other unsafe acts during a checkered-flag run may result in loss of points, Actions will be evaluated by the ASBR Committee.

# 6 - Code of Conduct:

### 6.1 Professionalism

Every Entrant, event participant, and Member of the ASBR is expected to conduct himself/herself in a professional and sportsmanlike manner.

### 6.1.1 Professional Appearances

Persons whose appearance, associations or affiliations at or away from an event are deemed inappropriate or who exhibit conduct which is offensive, abrasive, in bad taste, or otherwise inappropriate or who have been convicted of criminal activity may be denied membership or may have their existing membership suspended or revoked by ASBR.

### 6.2 Fans and Media

ASBR Members are encouraged to take part in certain fan and media activities promoted by ASBR race venues. Teams are encouraged to be fan friendly.

### 6.3 Public Slander of ASBR

Any Entrant or Member that publicly criticizes ASBR or its officials may be considered to be acting in an unsportsmanlike manner prejudicial or detrimental to the ASBR, and the best interests of the sport may be cause for disciplinary action.

### 6.4 Penalties Issues

Penalties are issued at the sole discretion of the ASBR.

### 6.5 Alcohol, Drugs, Smoking, Vaping

There is a total ban on the consumption of alcohol, non-prescription drugs and drugs that prohibit operation of motor vehicles by a member for the duration of the event. There will be no smoking or Vaping in the PIT are during the race.

### 6.5.1 Zero Tolerance Policy

Members are required to have zero (.00%) blood alcohol content prior to and during racing and to comply with the ASBR regulations.

### 6.6 Breathalyzer and Drug Testing

Use of a breathalyzer and/or drug testing of the Members may occur randomly or at the ASBR's discretion prior to the start of the event or anytime during the event.

### 6.6.1 Prescription Drugs

Properly administered prescription drugs that allow the operation of motor vehicles and authorized by a doctor will be allowed.

### 6.7 Code of Ethics

All ASBR members, entrants, participants, officials, and teams shall uphold integrity, respect, fairness, and responsibility in powerboating. This includes environmental stewardship, compliance with anti-doping rules (aligned with UIM standards), and no misconduct prejudicial to the sport.

## 6.8 Influence of Alcohol/Drugs – Extended Areas

No Member, team member, official, or participant will be under the influence of alcohol or drugs in pits, launching areas, start/finish zones, or on water (including rescue/safety boats). Zero tolerance applies event wide.

## 6.9 Anti-Doping Compliance

ASBR adopts UIM -aligned anti-doping rules (per UIM Anti-Doping Rules, Article 2 and related articles). Doping violations result in sanctions up to lifetime bans. Testing may occur per UIM standards.

## 6.10 Unsportsmanlike Conduct

Public criticism, abusive language, unsafe practices, or actions detrimental to safety/respect may lead to penalties, including membership revocation.

# 7 - Penalties, Reviews & Appeals Processes

## 7.1 Violations and Penalties

Any Member who violates any Regulation, attempts to bribe any person involved with an Event, or engages in fraud or any act detrimental to ASBR or sprint boat racing may be penalized at ASBR's sole discretion. This authority applies to violations occurring at any time, not limited to during an Event.

## 7.2 Penalty Options

ASBR may impose any penalty deemed appropriate, including but not limited to: loss of points, loss of prize money, disqualification, suspension or revocation of Membership or competition privileges, probation, expulsion from an Event, withholding of purse or prize money, or any consecutive combination thereof.

## 7.3 Final and Non-Appealable Decisions

The following decisions and actions are conclusive and not subject to appeal:

- Any Race Procedure penalty
- Any decision regarding timing and scoring
- A determination whether a matter is or is not conclusive
- Revocation of credentials or pit parking privileges

## 7.4 Publication of Penalties

ASBR may publicize any penalty, protest, appeal, or related decision. No person or entity shall have any right of action against ASBR arising from such publication.

## 7.5 Bad Faith Protests or Appeals

If ASBR determines that a protest or appeal was filed in bad faith, the filer shall be in violation of the Regulations and subject to penalty.

## 7.6 Timing and Scoring Results

Decisions of the Timing and Scoring Official are final unless the Official requests review by ASBR or an Entrant who competed in the Event requests review through the Official. All results remain unofficial until reviewed by ASBR. ASBR Will render a decision within 48 hours after the Event concludes.

## 7.7 Protesting

Only an Entrant or Crew Chief participating in the event may file a protest. A protest may address any decision, act, or omission by ASBR, an Official, Competitor, or other person connected with the Event that violates these Regulations and provides a significant unfair competitive advantage.

## 7.8 Notice and Filing of Protest

The protest must be submitted in writing to ASBR before the end of the Event, specifying the exact Regulation violated. It must be signed by the protesting entrant and accompanied by a $250 protest fee payable to ASBR. ASBR may retain or refund the fee, in whole or in part, at its discretion.

## 7.8.2 Protest Against Class Eligibility

Protesting a boat's eligibility, including engine violations, require an additional protest inspection fee of up to $3,000 (payable to ASBR). The exact amount depends on the type and complexity of the violation (maximum $3,000 for full engine/teardown inspections). The fee is refundable only if the protest is upheld. Refusal to allow inspection results in immediate disqualification from the Event.

## 7.9 Review and Binding Decision

All parties are bound by ASBR's final decision. Reviews are conducted solely by ASBR.

## 7.10 Withholding of Awards

When a protest affects awards, all affected awards shall be held until ASBR renders a decision.

# 8 - Personnel:

## 8.1 Race Controller

Designated by the Sanctioning Body and is responsible for enforcement of all sanctioning body regulations, and any, and all procedures and regulations pertaining to the race event.

## 8.2 ASBR Technical Inspectors

Designated by the Sanctioning Body and is responsible for inspection of race boats and safety equipment for compliance with the ASBR rule book. Inspections will be completed on all boats prior to the race event. Anytime a boat wrecks and must be trailered back to the pits, a follow-up inspection will be completed prior to the boat re-entering the event. Any boat that wins an event will be subject to a post-race inspection with regards to class specific regulations. Any conflicts that arise from a technical inspection will be immediately addressed by ASBR to determine an appropriate course of action.

## 8.3 Safety

All safety inspections will be conducted by ASBR officials.

## 8.4 Lead Timer

Designated by the Sanctioning Body and is responsible for timing of all boats and recording the times of each run. All timing results are certified by the Lead Timer.

## 8.5 Back-up Timer

Duplicates efforts of Lead Timer and confirms accuracy of official results.

## 8.6 Spotters

There will be a minimum of 2 qualified people assigned by ASBR.

## 8.7 Pit Steward

Designated by ASBR and is responsible for staging the boats in the order assigned by the Lead Timer.

## 8.8 Launch Controller

Designated by ASBR and is responsible for sending the boats to the starting line.

## 8.9 Media Director

Designated by ASBR.

# 10 TECHNICAL REGULATIONS

## 10.1 BOATS

A sprint boat is defined as a single-hull, single-engine vessel propelled by a jet pump. The hull must be constructed of aluminum up to the deck line. The deck may be aluminum or composite but must be permanently attached in a manner that adds structural strength. Overall length (bow tip to rear edge of stern, excluding the pump) must be 12–14 feet.

2024 and newer North American-built boats must have hull plate thickness of minimum 0.1900 in (5 mm). Sides, topsides, deck, gunnels and transom shall be a minimum thickness of .080" (2mm). Sides height minimum of 340mm at the transom. That's from the chine to the top of the side gunnels measured inside the hull. Engine bearer shall be constructed from minimum of .160" (4mm), the use of 5083 aluminum is recommended.

Engine bearers cannot be notched to get seats lower and the engine bearers cannot be stepped down towards the bow. There shall be no visual defects or deformation to the structure. Lightening holes in engine bearers to be a minimum of 20mm from the bottom of the bearer and from the fold radius

## 10.2 Composite Materials

The use of any composite materials shall be limited to non-structural areas or parts: i.e. Spoiler, Dashboards, Gauge Panels, battery boxes etc. Seats must be commercially built by a reputable manufacturer. All use of Carbon Fiber must be approved by ASBR Safety Technician prior to race day. Seats will be visually inspected. All composite components must be documented with photos by officials so cracks can be identified before they become an issue.

## 10.3 Nitrous oxide

Nitrous oxide is banned from all competing boats All nitrous oxide or nitro Methane type fuels are prohibited.

## 10.4 Steering Wheel

Non-reinforced plastic or wood steering wheels are banned from competing boats

## 10.5 Race numbers

Race numbers shall be affixed and legible on all boats and shall be at least 10 inches in height. Numbers shall be affixed to each side of the roll cage. Any boat running Methanol fuel must have a red letter "M" affixed to each side of the boat at least 7 inches in height.

## 10.6 Transom Numbers

At least 1 number, 3 inches in height, shall be affixed to the vertical section of the transom of the boat no less than 3 inches from the top of the transom

## 10.7 Number Color

All numbers and letters will contrast with the color of the boat for ease of reading

## 10.8 Attached Items

No items may be attached to the boat or roll cage except cameras or items required for racing, timing, scoring, or promotion. Anything mounted below shoulder height must remain inside the boat. Cameras should be mounted under the cage (on top of the timing loops) for protection.

## 10.9 Fire Extinguishers

Fire extinguisher(s) may be installed on each boat to be appropriate to Fuel type **AND** battery used. Affixed at the front of the trailer and easily accessible.

## 10.10 Fuel cells

Fuel cells or tanks should be secured mounted, with a non-spill cap. Any breather line must have a non-return valve (roll over valve) and be vented outside the boat. All lines will be made fuel grade hoses, with AN Fittings on pressure lines and strongly suggested on filler / breather lines.

## 10.11 Batteries

Batteries must be bolted or clamped securely to the boat. If a battery is being used that allows exposed terminals, those battery terminals must be insulated. No wet cell batteries allowed.

## 10.12 Electrical Kill Switch

All boats must be equipped with an ignition kill switch, which must be located so that it is easily accessible to the driver and navigator while strapped in their seats and members of the safety crew from outside the boat. The kill switch must be clearly marked with a red arrow showing the off position. The battery isolation switch may also function as the ignition kill switch if it is properly wired to kill the engine when switched off. The battery isolation switch must also be clearly marked with a red arrow showing the off position.

## 10.13 Oil Line Fittings

All pressure and non-pressure oil lines, fuel lines must be of the following type of materials: Aeroquip steel braided (or equivalent) or metal tubing with AN style fitting.

## 10.14 Roll Over Valve on Fuel Tanks

Adequate breathers and roll over valve(s) must be fitted to the fuel tank, and with proper venting overboard.

## 10.15 Electric Fuel Pump

Any boat using an electric fuel pump must have an automatic shut off switch which stops the pump in the event the boat becomes inverted or the engine stops running.

## 10.16 Throttle Return Springs

All boats must have a minimum of two throttle return springs (not including internal carburetor spring), either one of which can close the throttles in the event that the throttle linkage becomes disconnected.

## 10.17 Flywheel Guard / Driveline Hoop

All Boats will have an adequate guard installed above the flywheel. Additionally, all boats utilizing a front engine drive belt system of any type that can be reached by any extremity of the driver or navigator while seated must be equipped with an anti-intrusion net, screen, or guard that will effectively prevent bodily injury from the moving components. All boats must have a driveline hoop.

## 10.18 Solid Mounted Engine Requirements

Engines are to be solid mounted to the main engine bearers. Where an engine mount creates a frame there shall be a minimum of four, 3/8 in. bolts to secure that frame to the main bearers. Where engine mounts create four separate attachment points there will be a minimum of eight, 3/8 in. bolts

## 10.19 Steering

The steering system must be in good condition, and all threaded turnbuckles and fittings must have effective locking devices (wire TY or Nylon TY wraps). If plastic coated cable is used, plastic must be stripped over the crimped or clamped area. If areas have been exposed chain guards are required to be used. Nylon type nuts need to be used with some thread exposed to secure all the steering components, otherwise a jam nut will be used.

## 10.20 Reversing

All boats must have a functional reverse, all race weekend.

## 10.21 Engine Water Discharge from boats

Engine water outlets extruding from the side or rear of the boat must be angled to discharge the water downwards at a minimum of 45 degrees

## 10.22 Seats

No plastic seats will be allowed in the competition. Seats must be metal or composite motorsports racing seats approved by ASBR **PRIOR TO THE SEASON**

## 10.23 Seat Mounting

Seats shall be securely affixed within the roll cage assembly, to meet the manufacturers recommended mounting, with at least 6 points of attachment. Such that the driver and navigator are sitting side by side with one another.

## 10.24 Seat Head level Side Restraints

All seats must have side-head restraints extending to a point even with the front of the competitor's shoulder while strapped securely in the seat, with all seat belts mounted at recommended manufacturers specifications

## 10.25 Frontal Head and Neck

All padded neck collars are no longer approved. Frontal Head and Neck (FHR) SFI 38.1 or FIA equivalent, will be enforced and need to be replaced before the expiration date listed.

## 10.26 Pit Area Fire Extinguisher – NOT ATTACHED TO TRAILER

All Pit areas will have an additional fire extinguisher with the following specifications: Minimum 4lb or larger-ABC rating.

# 11 - ROLL CAGE

**11.1** These minimum specifications must be fitted to all boats. Boats not complying with these standards will not be permitted to race. The intention of these specifications is to provide the best possible protection for drivers and navigators, taking into consideration the accidents which have occurred within the sport, and best practices in other motor sports. No guarantee is implied or stated, nor is any responsibility taken, regarding the degree of protection or safety afforded by any roll cage constructed to these specifications. Owners are encouraged to seek the advice of a structural engineer qualified in roll cage design.

**11.2** All jet sprint boats are to have roll cages constructed so that all parts of the crew's bodies above the deck line are contained within the roll cage structure. At the same time, the roll cage should provide minimum restriction to the driver's vision to the sides or front and must allow quick and easy access and exit, especially in the event of an inverted accident. While different designs of roll cages will be permitted, each design must satisfy the requirements stated above and be constructed to the following minimum specifications.

**11.3 ROLL CAGE CONSTRUCTION MATERIALS**

Only motorsport approved round chrome moly tube is acceptable with a minimum diameter of 38.1 mm and a wall thickness of 2.1 mm for the primary cage (fig. 1). Additional bracing attached to primary cage must be a minimum diameter of 1.5 inch.

**11.4 CAPPING PLATES:**

Minimum 3 mm steel or chrome moly. Roll cage capping must not be drilled or have welds ground back for appearances. Attaching plates - minimum 5 mm steel or chrome moly.

**11.5 SEAT FRAME CROSS BARS**

Shall be fixed to the engine bearers using one (1) of two (2) approved methods. Method 1 (fig. 7): vertical dropper (38mm chrome moly) from horizontal bar, down to engine bearers with 3mm or greater foot plate, fastened by 1 x 8mm or 5/16 bolt fixed into either nut with washer or 1.5 times the diameter of aluminum thread. Method 2 (fig. 8): if the horizontal bar is less than 20mm from the engine bearers, it shall be attached with 3mm or greater steel angle and fastened to the engine bearers with the same method as method 1. If the total roll cage spread exceeds 86.6 inches (2200mm) a third mount fixing the lower roll cage bar to the hull plate shall be used. This will be measured from the extreme point of the tube front to back.

**11.6 WELDING & FORMING:** See Appendix A - Chrome Moly Weld Procedure Specification.

**A.** All joints must be fully welded by a competent welder with all welds being of good external appearance and remain un-ground using the TIG or Pulse MIG process with the 4130-filler wire for tig and er80s-d2 for pulse mig to do chrome Moly.

**B.** Joints must be preheated and welded in 90-degree increments to avoid brittleness.
Tube must be contoured and shaped for a close fit prior to welding.
Tubes cannot be flattened in order to make a joint.

## 11.7 CAGE CONFIGURATION

**A.** All bracing and the rear A frame must be straight between attachment points. (fig. 2 & 5).

**B.** The main A frame roll cage structure and brace bars must be one-piece continuous tubing. No welds permitted other than attachment points and capping plates.

**C.** The top corners of the overhead framework must be formed with one 90-degree formed on a bender suitable for bending the chrome moly size used.

**D.** The two A frames must be spaced apart a minimum of 100 mm between centers. (fig. 3). Cages manufactured after 2015 must have frames spaced at a minimum of 200mm.

**E.** Capping plate (3 mm) must be welded to each corner of the A frame covering the entire bend.

**F.** A minimum of one (3 mm) plate or tube must be welded in between the capped A frame corners between the top bars. (fig. 3).

**G.** The mounting points on the cage for the shoulder straps behind each crew member must be between a horizontal line to the shoulders and a line drawn downward from the shoulders at an angle of 20 degrees to the horizontal. (fig 3 - seatbelt angles). 5-, 6- or 7-point harnesses must be mounted as per manufacturers' recommendations.

**H.** The two A frames must have a brace on the side so as to form an A section on the side of the cage (fig. 6) and should where possible also be attached to the side panel (gunwale) as well as the chine.

**I.** Helmet Clearance must be a minimum of 100 mm from the top of the helmet to the underside of the cage top bar and must be maintained for both crews. (fig. 5)

**J.** An X styled brace going from the upper outer A frame to either:

**K.** The back cross bar and then down to the engine bearers or outer chine area. (The bottom part of the X brace can be removable in this configuration provided suitable hardware is used)

**L.** Goes directly to the engine bearers or chine and joined where they intersect. (If the lower part of the X brace goes to the chine it must have suitable load distributing plates on attachment points). The bottom two bars of the X may have 150mm max distance between them where they intersect the cross bar.

## 11.8 METHOD OF SECURING / ANCHOR POINTS

A certificate from the hull manufacturer may be required to certify that all modifications and re-engineered bearers are satisfactory.

**A.** Attachment plates or load-spreading flanges must be welded to the tube ends to secure the cage to the boat and must be at least 5 mm minimum thickness.

**B.** For mounts attaching to engine bearers are. Rectangle mounting plates:

**1.** Minimum width of attaching plate = tube diameter

**2.** Minimum length of the plate = tube outside diameter x 2

**C.** Circular attaching plates:

**1.** Minimum diameter of round flanges should be tube outside diameter x2. Where the brace/intrusion bar is attached to an angle style engine bearer, a plate of 5mm x 150mm long must be welded to the bearer and hull at 90 degrees to stabilize mounting area.

**D.** For mounts at the chines

**1.** Bracket plate style mounts for cage that attach face down to the hull should be glued with suitable adhesive, attached with 6 x 8mm fasteners, and have a minimum size of 140x80mm.

**2.** Mounting plate minimum size of 10mm thickness x 150mm long is required for all mounts welded longitudinally along chine area of hull.

**E.** In addition to the above, the main roll cage structure may be attached to the foredeck or gunwale, provided that a brace bar of the same type and size material as the roll cage continues the load path through to the bottom of the boat. Provided the primary elements of the roll cage structure attach to the boat bottom as stated above, then braces may be attached to the roll cage in order to strengthen the boat sides or deck structure.

## 11.9 ADDITIONAL NOTES

**A.** The roll cage shall be securely attached to the foredeck and gunnels using a minimum of four (4) attachment points per side. Each attachment point must use at least two (2) 3/8-inch (9.5 mm) grade 8 bolts or equivalent, with backing plates of at least 1/4-inch (6.35 mm) thick aluminum or steel, minimum 4 × 4 inches (102 × 102 mm) in area. Attachments shall be positioned to distribute load evenly and prevent flexing or detachment under impact.

**B.** Anchor points for the seat belt harness must be attached directly to the roll cage and the seat base attachment bars. Harnesses cannot share a common mounting point, apart from the shoulder straps. A split pin must lock the seatbelt hook to the lap anchorage. Anchor points that are not acceptable include any part of the engine, any part of the hull sides or unsupported deck.

**C.** There shall be four (4) attachments at the base of the seat, two (2) at the shoulder suitably spaced to stabilize the upper part of the seat and use a minimum bolt size of 8mm bolts or imperial equivalent. The use of spreader washers is compulsory with a minimum diameter of 30mm.
**D.** Restraint systems anchorage points must be constructed in such a manner that they shall be capable of withstanding the same forces that the harnesses are designed to withstand. This seat base assembly shall be constructed using the same welding and fabrication procedures as forming the roll cage structure.
**E.** Harness anchoring bolts must be a minimum size of a 7/16, 20 UNF-threaded bolt/eye bolt, and have suitable backup washer.

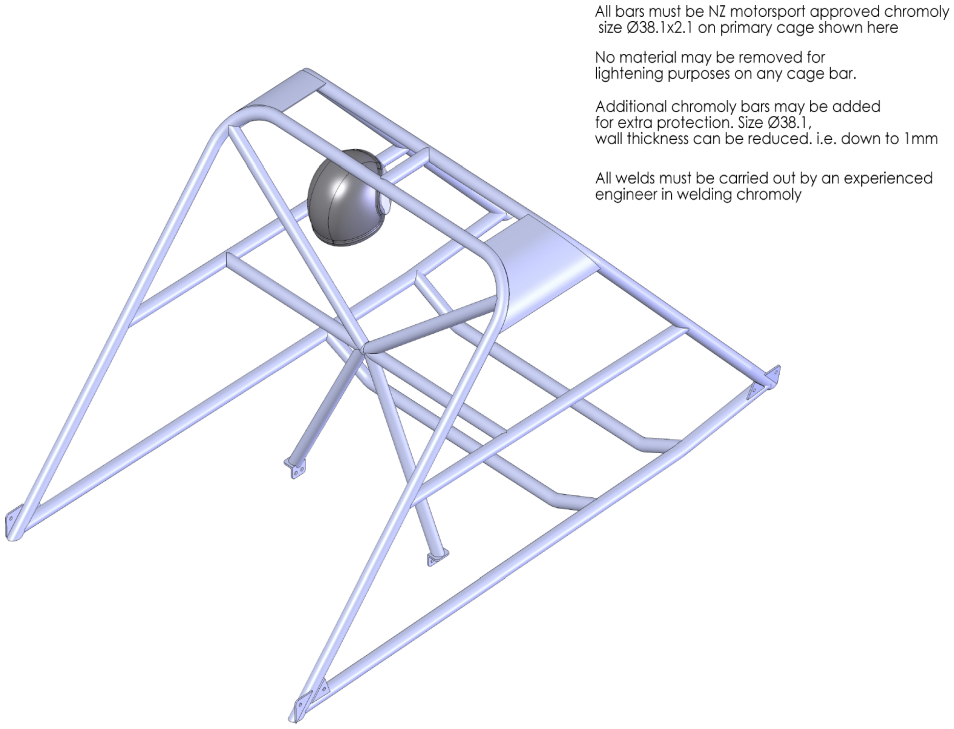
## 11.10 BOLTING

Minimum number and size of fasteners required per roll cage attachment point: 2x bolts = 10mm, 4x bolts = 8mm, 6x bolts = 6mm or imperial equivalent.

## 11.11 CREW PROTECTION

The driver and navigator must be able to exit an inverted boat through the front area of the roll cage with no frame members in such a position as to impede their exit or rescue. The frame of the cage must protect the crew from any frontal or inverted impact to their head and torso and must be able to restrain the engine from moving forward far enough to cause injury by having suitable cross-members in place. It is recommended that the steering wheel is also protected by the A frame to prevent injury to hands if boat goes into a wire safety barrier.

**FIGURE 1**



All bars must be NZ motorsport approved chromoly size Ø38.1x2.1 on primary cage shown here

No material may be removed for lightening purposes on any cage bar.

Additional chromoly bars may be added for extra protection. Size Ø38.1, wall thickness can be reduced. i.e. down to 1mm

All welds must be carried out by an experienced engineer in welding chromoly

**FIGURE 2**

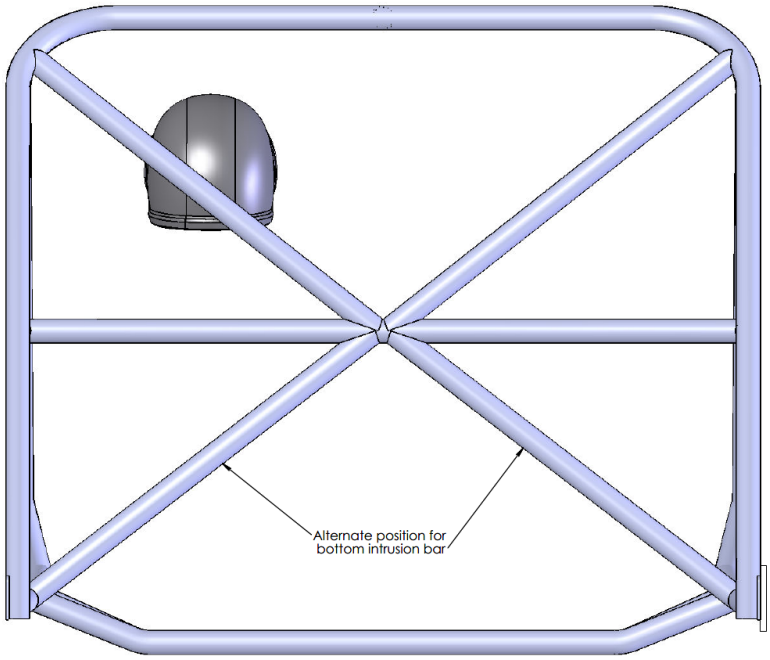



**FIGURE 3**

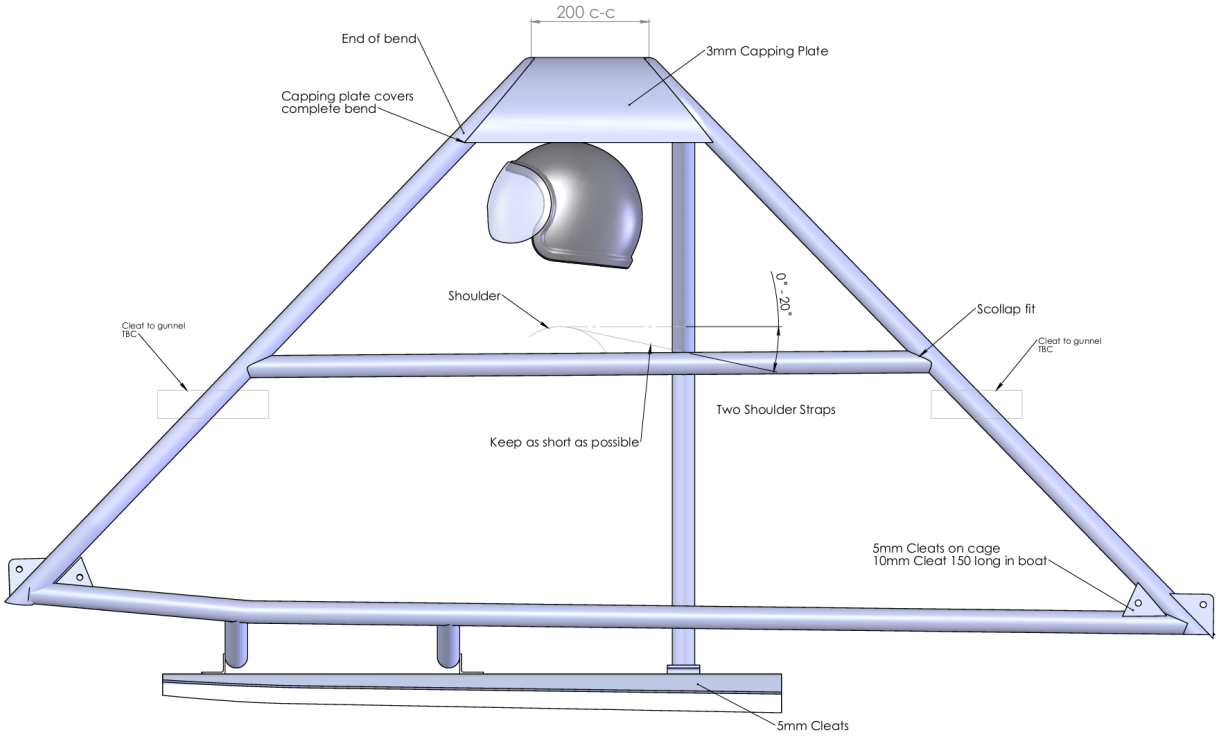


**FIGURE 4**

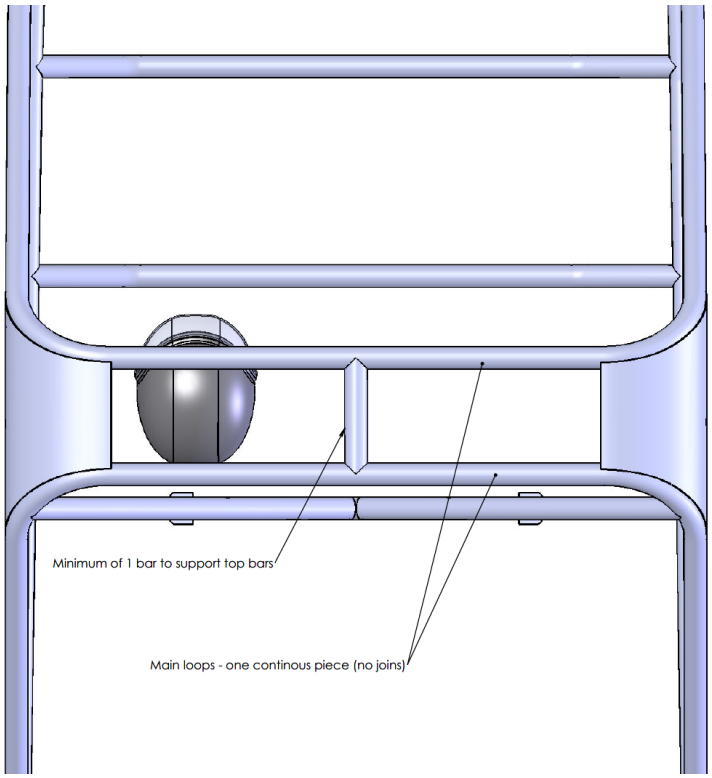
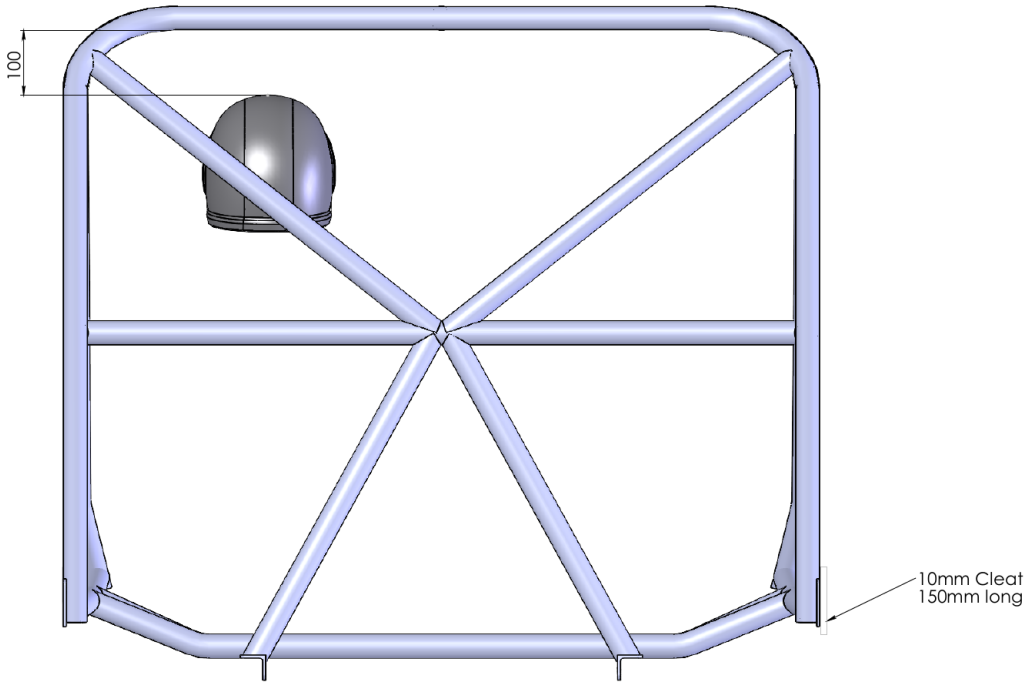
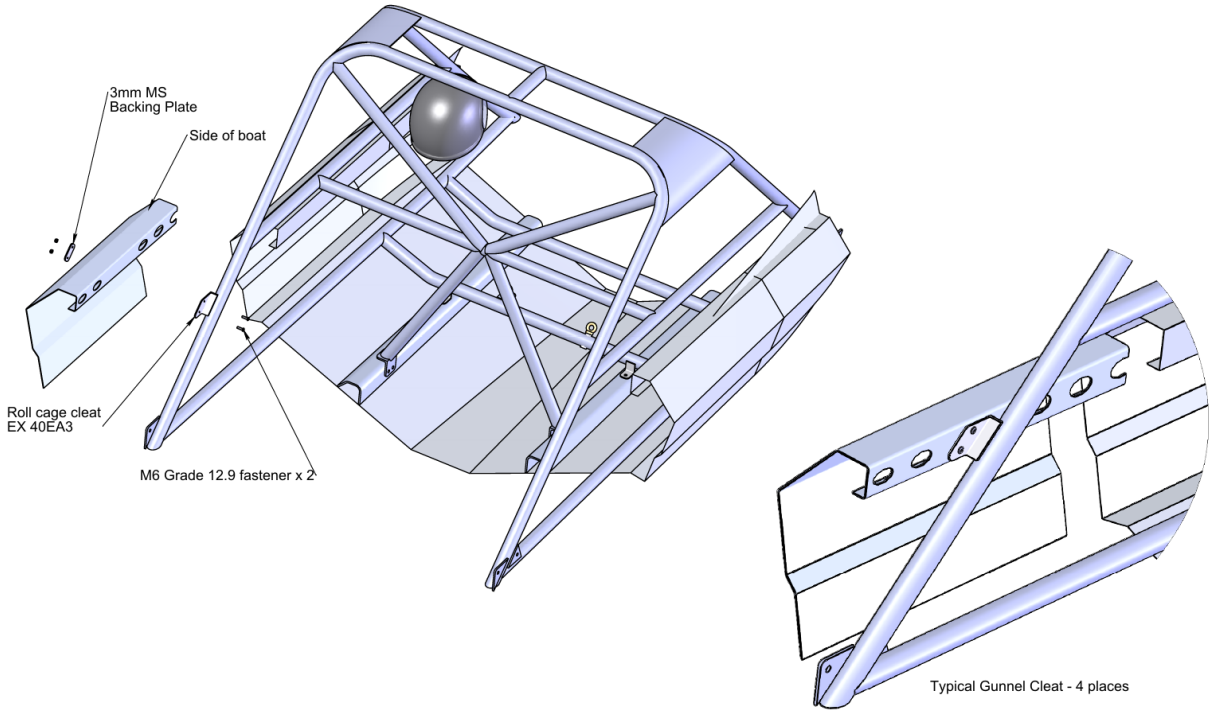



**FIGURE 5**



## FIGURE 6




## FIGURE 7

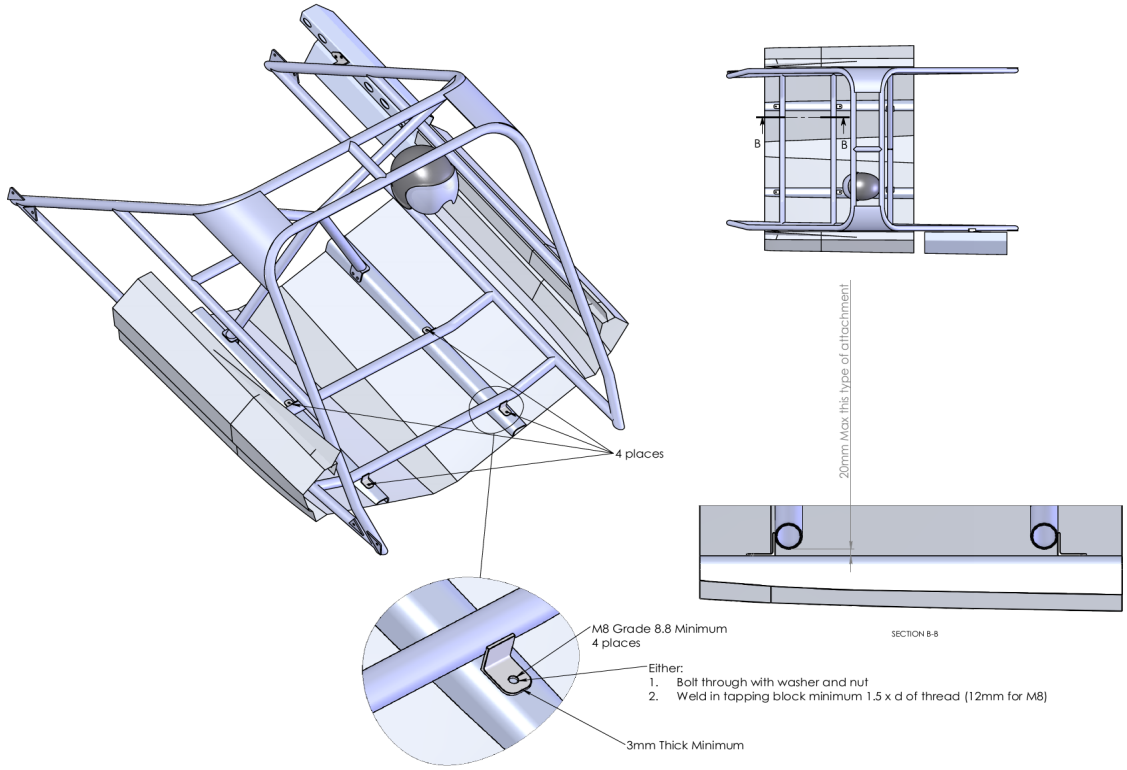


**FIGURE 8**

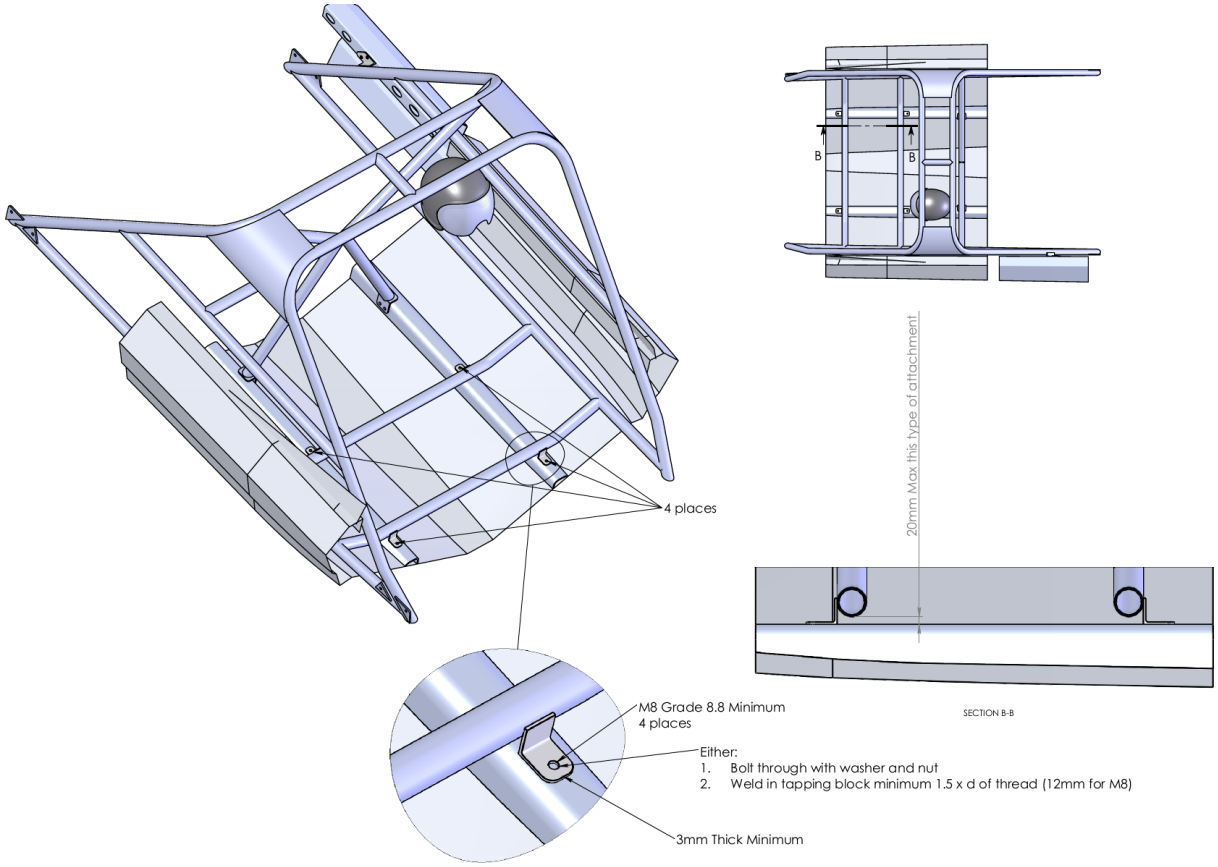
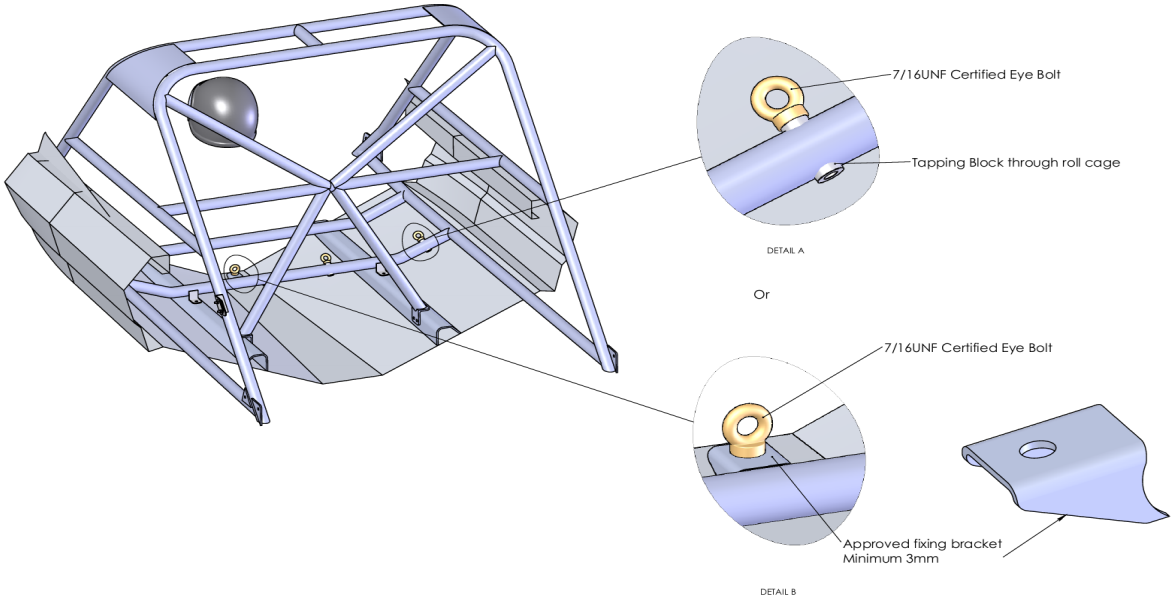



FIGURE 9



**APPENDIX A**
**CHROME MOLY WELD PROCEDURE SPECIFICATION**

| | |
|---|---|
| Base Metal: | Material: 4130 chrome moly tubing normalized |
| Thickness Range: | 2.1mm wall thickness |
| Diameter: | 038.1 |
| Welding Process: | GTAW |

| Filler Material | | |
|---|---|---|
| Specification No (SFA): | 5.18 | 5.28 |
| AWS No (Class): | ER70S-2 | ER80S-D2 |
| Size of Filler Material: | 2.4mm | 1.6mm or 2.4mm |

| Gas | |
|---|---|
| Shielding Gas: | Argon |
| Mixture: | 99.99% |
| Flowrate: | 8-12 LPM |
| Pre flow: | 0.5 seconds |
| Post flow: | 10 seconds |

| Preheat | |
|---|---|
| Preheat Temperature: | 68 F |

| Electrical Characteristics | |
|---|---|
| Current: | DC |
| Polarity: | Electrode negative |
| AMPS: | 75-85 |
| Volts: | 10-11 |
| Tungsten: | 1.6 or 2.4mm Dia 2% Thoriated or Lanthanotid |

# 12 - Personal Protective Equipment

## 12.1 PPE (Personal Protective Equipment) Inspection

All PPE will be inspected and approved prior to each event.

## 12.2 Seat Belts

All boats must be equipped with a minimum of 5-point SFI 16.1 approved racing harnesses for both driver and navigator. Lap belts must be a minimum 2", shoulder belts must be a minimum 2" or a combination of 2" to 3" with the change being made at the adjuster to accommodate head and neck restraint devices. Harnesses should be securely attached to the boat or roll cage in a manner to restrain the occupant securely in their seat at all times. The harnesses will be equipped with a quick release lever or camlock device which will allow the entire assembly to be unbuckled quickly from one central point. Harnesses must be maintained in clean working order with current SFI ratings. Any harnesses that show excessive wear, tears, cuts, burns or damaged hardware must be replaced and will not be allowed in competition.

## 12.3 Race Suit

Fire resistant race suits, one or two pieces. Unlimited Super Boats, LS and 400 Classes require a minimum rating of SFI3-2A/5 which is mandatory for the Driver and Navigator. Fire resistant balaclavas with a single eye opening, gloves, closed-toed shoes or boots, neck braces and arm restraints are required in all classes.

Modified Driver & navigator class must have race suits with a minimum rating of SFI3-2A/1.

Any suits which are not clearly marked with the above specified ratings will only be accepted after a certified copy of the written specifications for the suits, which proves the suit's rating meets or exceeds ASBR specifications, is presented to the sanctioning body. It will be the responsibility of the competitor to provide these specifications to the sanctioning body before the race suits can be utilized in a sanctioned event.

## 12.4 Helmets

Any Brand of Helmet is allowed providing they meet SNELL, FIA standards on the UIM website. Open Face Type only. All helmets must be in excellent condition with no frayed chinstraps or rusted anchor points. It must fit the person wearing it correctly per the manufacturer's specifications. Full face or removable face pieces are not permitted. Air breathing systems are allowed. Exception: Full face helmets with air breathing systems are permitted

## 12.5 Arm Restraints

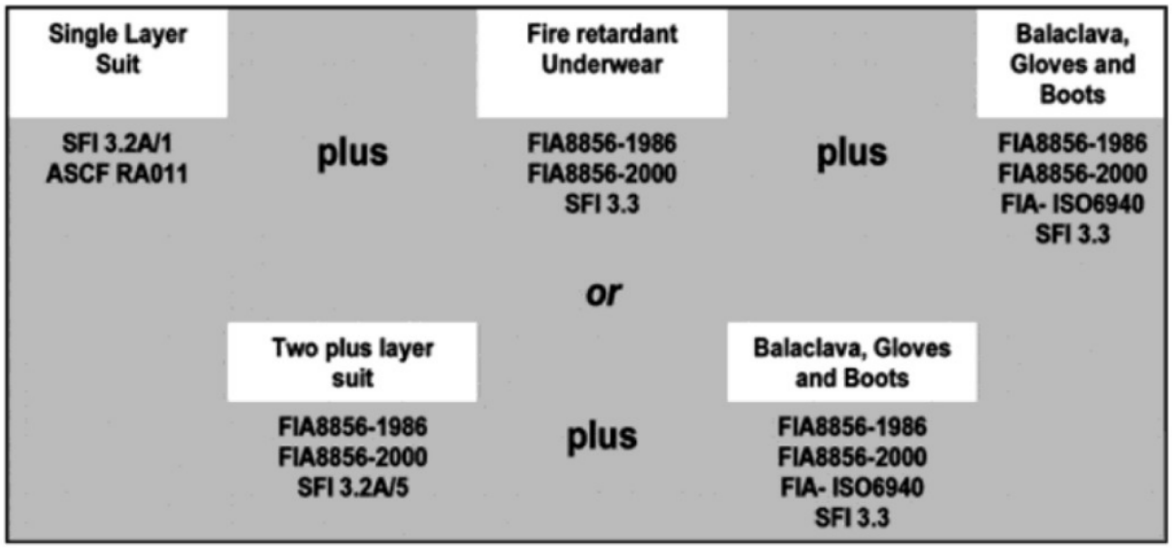
Motorsport type approved arm restraints must be worn on the outside wrist of each boat occupant. These should be adjusted to a length, which prevents the arm from protruding outside the boat in case of a rollover. They will be attached to the harness in a manner that allows it to release freely from the harness when it's unbuckled.

## 12.6 Frontal Head Restraint

All competitors will be required to wear a SFI 38.1 or FIA 8858 standard Head restraint

## 12.7 Technical Inspection of PPE

The ASBR Technical Inspector must be satisfied with the safety and integrity of all PPE before a driver or navigator is allowed to race.



# 13 - Post-Race Inspection

## 13.1 Post-Race inspection

Will be determined by ASBR Technical Inspector at random.

## 13.2 Regulatory Inspection(s)

The boat will be inspected for regulations compliant to their specific class.

## 13.3 Failure to Comply with inspection

Any boat failing a post-race inspection or refusing to submit it to the inspection, will automatically be disqualified from the event. Additionally, ASBR will levy a fine of $1,000 dollars against the competitor. The competitor will also forfeit all points accrued up to that point in the season. A second offense will constitute immediate suspension from any further competition during the season. All fines must be paid in full prior to the competitor participating in another sanctioned event.

# 14.0 INTERNATIONAL LS CLASS

## COMPETITORS

The minimum age for LS Class competitors shall be 16 years of age for drivers and 16 years of age for navigators. Proof of age will be required on demand.

## 14.1 ENGINE

LS series only; LS1, LS2, L77, L76, L98, LS3.
No LS7 allowed.

## 14.2 STARTING

Engines must be able to self-start without the assistance of a jump battery Starter motor
Flywheel/flexi plate — open.

## 14.3 CRANKSHAFT

Standard cast crank. 3.622. +/— 002
Crank weight with reluctor wheel and 1 keyway — no spigot bearing, no crank gear.
LS1 - LS2 - L76 - 77 - 98 - LS3 Minimum crank weight 22.5kg

## 14.4 CONRODS

Standard LS1, LS2, L77, L76, L98, LS3 rods only - No titanium rod or alloy.
Conrod minimum weight: LS1 Minimum weight 600 Grams. LS2 - L76 - 77 - 98 - LS3 Minimum weight 630 Grams.
Balancing must have one rod untouched.

## 14.5 PISTONS

There must be a minimum piston to cylinder head clearance of 0.042' with head gasket fitted.

Open, must be Flat top only, no valve reliefs.
Standard General Motors Pin Size +/- .005".
Refer to block section for maximum bore size

Minimum weight of piston, complete with pin, rings, oil rings & clips.
Minimum Weight LS1 620 Grams.
Minimum Weight L76 — 77 — 98 - LS2 640 Grams.
Minimum Weight LS3 660 Grams.
**One piston must remain untouched when balancing.**

## 14.6 BLOCK

Alloy factory block 5.7 - 6.0 - 6.2, **no aftermarket blocks**
Block bore Size
LS1 = 3.900 "- 3.920"
LS2 - L76 - 77 - 98 = 4.00 "- 4.020
LS3 = 4.065 "- 4.075"
No lightening of block other than machine faces or honing process for normal engine building practices. 5.7L and 6.0L blocks may be sleeved to LS3 specification. LS3 blocks may also be sleeved. New sleeves must be in LS3 OEM position and 4.065"- 4.075" bore size. Blocks sleeved to LS3 specification must run piston and rods that match the LS3 specifications in this rule book.
Engine main bearings, Rod and Cam bearings = Open.
Engine cooling system and steam ports Open.

## 14.7 CAM AND LIFTERS

Hydraulic LS General Motors Lifters only. No tie bar lifters allowed.
5/16 pushrod 7.350 to 7.425 only. 080 minimum wall thickness.
Standard can be used
Cam must be one of the following
GM Motorsport GMM JS1 229-235-110.5 max valve lift .615 inlet, exhaust 0.620
Kelford SS108-JSA 230-235-109.5 max valve lift .615 inlet, exhaust 0.621
Comp Cams #54-000-11 reference spec # 620433
230-235-109.5 max valve lift 0.615 inlet, exhaust 0.621

## 14.8 TIMING CHAIN

Any standard General Motors or aftermarket IWIS LS Single row chain. No variable cam timing. No double row chains.
Front timing cover must be aluminum - open.

## 14.9 SUMP

Sump Open.

Wet sump and Dry sump allowed. Vacuum pumps not allowed. No vacuum in the crankcase allowed. Dry sump engines crankcase must be fully vented to the atmosphere via - 8an hoses from each rocker cover to dry sump oil tank. The dry sump oil tank or catch can must be vented with a -12an breather or vent. -12an roll over valve is allowed.

Engine breather hoses must lead to a spill-proof catch tank or be vented below the bottom of the sump and firmly secured against movement. The - 8an hoses from the dry sump tank through into the rocker covers, and the -12an breather

or vent, can be checked any time to make sure they have not been blocked off to pull vacuum with the dry sump system.

## 14.10 HEADS

Following General Motors Head castings only

No lightning of heads other than machine faces for normal engine building practices. Ends of heads may be engraved with company logo's, but no excess material removal.

Min head CC 64cc for LS1 (casting 241-243-853 only) when used on 5.7-6.0L. If used on 6.2L Min Head CC 66cc.

Min head CC 64cc for LS2 (casting 243 only) when used on 5.7-6.0L. If used on 6.2L Min Head CC 66cc.

Min head CC 66cc for L76, L77, L98, LS3 (casting 0821-823-5364). These heads can only be used on 6.0-6.2L.

## 14.11 All HEADS

No welding of heads even for repairs.
No material may be added to any part of the cylinder head casting.
Standard GM factory valves, or Manley stainless steel exhaust Part # 11661-8/inlet valves, part # 11686-8. These are the only valve options permissible.
LS1 - LS2 Valve sizes 2.00" inlet 1.55" exhaust
L76 - L77 - L98 - LS3 Valve sizes 2.165" inlet 1.59 "exhaust.
Standard valve location. Valve Angle 15 degree +/- 0.5 degrees
Standard or Standard replacement head bolts allowed. ARP head bolts allowed. ARP head bolts or ARP steel head studs allowed.
No spring pocket modification.
Porting allowed.
No changing of valve angles to deck face.

## 14.12 ROCKERS

Standard General Motors LS1, LS2, L77, L76, L98, LS3 rocker gear with a bearing trunnion upgrade allowed.
It must be 1.7 ratio only.
This will be checked with a tool at the racetrack regularly, as instructed by The Safety and Risk Manager or Tech Inspector.

## 14.13 VALVE SPRINGS

Any beehive single spring allowed if using Kelford SS108J Camshaft and Comp Cams #54-000-11 reference spec # 620433. If using GMM JS1 Camshaft you must use PSI 1511 ML Beehive springs.
Standard or steel retainer. No Titanium.
Standard or steel locks . No Titanium
Rocker covers must be aluminum — open.

## 14.14 COMPUTER/ECU

Open. Injectors Open.
GM stock or OEM replacement coils only.
Alternator Open.
Spark plugs and leads Open.
Engine sensors Open.
Loom Open.

## 14.15 EXHAUST

Open, must use mufflers and comply with UIM noise regulations.
No Titanium headers allowed.

## 14.16 HARMONIC BALANCERS

Must be fully encased performance balancer or standard with inner and outer circled together. Must have retaining bolt and washer fitted.
Minimum weight 4.2kg.

## 14.17 INLET MANIFOLD

Standard manifold, must remain completely standard but can be reverse mounted. No porting, no extrude honing, no machining, no drilling, no tapping, no filling. Drilling and tapping allowed only to block off factory vacuum ports that are not used.
LS1 = 12560894, 12573572
LS2 = 12589181
L76 - 77 - 98 - LS3 = 12590124, 12602477, 12603477, 12603477, 12686561

## 14.18 THROTTLE BODY

Open, maximum diameter 92mm.
No Spacers between throttle body and manifold.

## 14.19 VALLEY COVER

Must be aluminum — open.

## 14.20 JET UNIT

One water jet unit only. Direct drive only (no gearboxes). Jet unit impeller/s diameter must not exceed 8.5" plus 20 thou (216.40mm). Impellers must be constructed from ferrous material and can be CNC machined from billet stock. Stainless steel impellers are acceptable. Titanium, aluminum, and composite impellers are prohibited.
The jet unit housings (intake/main shaft/grill/stator/wear band/tailpipe or nozzle sections) must be made of aluminum, stainless steel, brass, bronze or ferrous materials. Titanium or Composite jet unit housings, (intake/main shaft/grill/stator/wear band/tailpipe or nozzle sections) are not allowed. Titanium studs/fasteners, composite reverse bucket, splash guard and steering rod are allowed. The jet unit must have a way to be sealed so it cannot be dismantled. i.e lx 3mm hole drilled in two main studs or one main stud and the housing so a seal can be threaded through both.

## 14.21 DRIVE SHAFT

Universals plus male and female spline slip yokes to be constructed of steel.

## 14.22 FUEL

Standard LS fuel rail only, Must use injector retaining clips.
Fuel will be provided at all international meetings by the promoter and paid for by competitors of the class involved. The control fuel will be dispensed either from a central point to which each boat must come, or by smaller containers refilled from the main source. The Tech Inspector will be in charge of and oversees all refuelling operations. Fuel tanks are not required to be drained prior to the addition of control fuel provided that a tank has maximum capacity of not more than 3.25 gallons (12 liters).

## NATIONAL SERIES AND UIM SERIES

Australia and New Zealand will use 98 pump fuel. USA will use 91-93 premium pump fuel.

## 14.23 SEAL PROVISIONS

Engines that are checked and sealed as per your country's sealing process, for a National and the World Championship, will not have to be taken out of the boat and completely checked. If you have an unchecked and unsealed engine for the World Championship, it will be sealed until the end of the World Championship and you will have to take it out of your boat to be checked.

Each engine shall be provided with a means of fixing two engine seals. This provision shall consist of a 3 mm hole drilled through the heads of two adjacent inlet manifold bolts and two adjacent front timing cover bolts.

Engines can be requested for testing at any race event Must display GM Motorsport or Kelford Cams or the Comp Cams manufacturers receipt for the Cam Shaft.
Copy of Receipt to be emailed to:
info@v8superboats.com.au for Australian teams,
nzjetsprint@gmail.com NZ teams
Dan@asbracing.com USA/Canada teams.

You must place/staple the receipt into your logbook. UIM reserves the right to seal an engine on the day and check at the end of the round/season.

## NOTE

Minimum and maximum limits are set on certain items. **THIS DOES NOT MEAN** your engine will work if you go to all the minimums or maximums. Please work with the parts you purchase, and your engine builder to machine and configure what works with your engine, provided they are within the given tolerances."
If you intend to make a modification to your engine, and you are unsure if that modification is permitted within this class, you should always contact your country representative on the UIM Jet sprint Working Group asking referral for clarification on the ruling or modification. If it does not say you can use a part you must not be in belief that you could use an alternative part.
Standard replacement parts only if not stated.

All factory General Motors/Holden parts must be used unless it states open in the rule section.

If in doubt, you need to ask for clarification of the rules by the UIM.
Dispensation requests will be considered on a case-by-case basis.
JSA = All UIM affiliated national jets printing associations worldwide.

# 15 - Modified Class

The minimum age for Modified shall be 16 years of age for drivers and 16 years of age for navigators. Proof of age will be required on demand.

## 15.1 COMPACITY

367ci maximum swept volume MATERIAL: Cast Iron Block

## 15.2 OILING SYSTEM

No restriction

## 15.3 CAMSHAFT

One OEM production location allowed; centerline cannot exceed 4.521" OEM spec. A .008" tolerance for matching allowed. No restriction on valve lift or rocker ratio. Shaft mounted rockers are permitted. Offset rockers are permitted to relieve pushrods with a max offset of 0.25". Offset rockers are permitted in OEM heads where pushrod tubes have been installed to gain width with a max offset of 0.25". Any device that can vary valve timing while the engine is operating is prohibited.

## 15.4 CONNECTING RODS

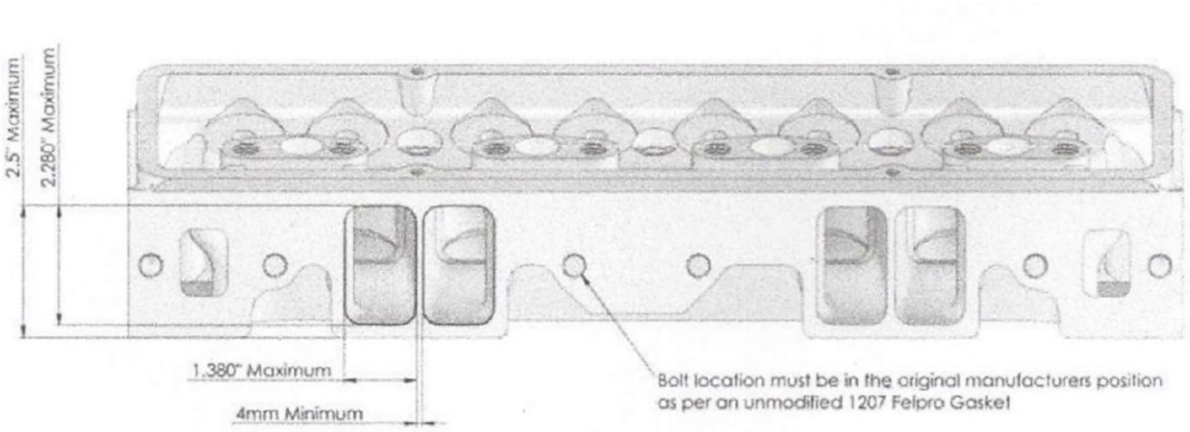
Must be of ferrous alloy material.

## 15.5 CYLINDER HEADS

Cast iron or aluminum. OEM location in relation to bore only. Example = Chevy valve angle 23 degrees. Ford valve angle 20 degrees. Chrysler valve angle 18 degrees.

## 15.6 INTAKE PORTS

Cylinder head intake port dimensions at manifold flange as per drawing, no high port or raised runner heads. OEM production location only.


2.5" Maximum
2.280" Maximum
1.380" Maximum
4mm Minimum
Bolt location must be in the original manufacturers position
as per an unmodified 1207 Felpro Gasket

## 15.7 BOLT LOCATION

Bolt location must be in the original manufacturers position as per an unmodified 1207 Fel pro gasket. Maximum distance of 2.500" allowed from roof of port to block surface side of head, measurement is made along the plane of the intake flange face and not perpendicular to deck surface (Chevrolet specific rule only).

## 15.8 VALVES

Maximum intake size of 2.125" and exhaust 1.625". Valves must open by mechanical action, closing with a coil spring.

## 15.9 CARBURETOR

Naturally aspirated only via a single 4-barrel carburetor with a maximum of four (4) venturis. Carburetor throttle body bores below the throttle shaft centerline shall not exceed 1-11/16" diameter. Butterflies or throttle blades shall not exceed 1-11/16" diameter. No electronic metering. Throttle actuation must be by cable unless approved by ASBR. Electronic TPS measurements are allowed. **Any other electronics attached to the carburetor will need to be approved PRIOR to the season by ASBR.**

## 15.10 INTAKE MANIFOLD

Must use OEM bolt pattern to mount to cylinder head without spacers or adapters. No sheet metal, or tunnel ram intake manifolds allowed. The manifold must be largely unmodified externally. No additives can be discharged into the inlet track. Any device that alerts the configuration of the manifold's induction or exhaust of the engine is prohibited.

## 15.11 EXHAUST / HEADERS

No restrictions on type, noise emissions must be effectively muffled and meet any DBA requirements of the Track and/or Association. Specifications and regulations will be provided as needed.

## 15.12 FUEL

100 Grade Race fuel -any commercial brand purchased from a dealer. 100-116 octane non oxygenated lead fuel. No additives allowed, the fuel must remain in as its original purchased state. This includes but not limited to octane boosters, scent additives, and/or stabilization additive. Any altered fuel will result in disqualification for the event and possibly longer depending on the advisory committee’s ruling

## 15.13 COMBINED RULES AND LIMITS ON MODIFICATION (ALL MAKES):

No angle milling of heads allowed.
Maximum 0.50-degree (either way) valve angle testing tolerance applies to factory valve angle.

Porting is permitted but no material may be added to any part of the cylinder head casting (unless specified in that engine family specific rules). Includes but not limited to aluminum ramps, epoxy, brazing, furnace cement etc.

Welding is permitted for crack-repair purposes only but is limited in the port, intake and exhaust runner area to a maximum of two (2) repairs per cylinder head.

Welding in the chamber area for crack-repair only is limited to two (2) chambers per head but must not alter the shape or size of the combustion chamber. Replacement of valve guides are not considered to be a repair (see below).

All machine work for valve guides, spring and valve seats must remain parallel and in original cylinder head manufacturers position.

No offsetting of valve guides is permitted.

Any machined surface must remain parallel to original surface. Repair sleeves or tubes of any material may be fitted to either the head bolt or pushrod holes: Head bolt = one (1) repair maximum per cylinder head.

Pushrod hole/slot =two (2) repairs maximum per cylinder head for aftermarket cylinder heads.

Pushrod hole/slot = four (4) sleeves or tubes permitted per head for OEM heads to gain port width comparable with aftermarket castings.

Max rocker offset is 0.250".

No restriction on exhaust valve seat inserts.

## 15.14 JET UNIT

Up to a 8-1⁄2” jet unit impellors will now include a 20 thou tolerance.
Impellors must be constructed from a ferrous material, or Billet.
The jet unit housing must be made of either cast aluminum or ferrous materials.

### 15.15 NO ONBAORD ECU ALLOWED – DATA LOGGING ALLOWED

# 16 INTERNATIONAL GROUP A400

The minimum age for Group A competitors shall be 16 years of age for drivers and 16 years of age for navigators. Proof of age will be required on demand.

## 16.1 STARTING

Engines must be able to self-start without the assistance of a jump battery.

## 16.2 JET UNIT

One water jet unit only. Direct drive only (no gearboxes). Jet unit impeller/s diameter must not exceed 216.40mm (8.5" plus 20 thou).

Impellers must be constructed from ferrous material and can be CNC machined from billet stock. Stainless steel impellers are acceptable. Titanium, aluminum, and composite impellers are prohibited.

The jet unit housings (intake/main shaft/grill/stator/wear band/tailpipe/nozzle sections) must be made of aluminum, stainless steel, brass, bronze or ferrous materials. No Titanium or Composite jet unit housings (intake/main shaft/grill/stator/wear band/tailpipe/nozzle sections) are not allowed. Titanium studs/fasteners, composite reverse bucket, splash guard and steering rod are allowed.

## 16.3 ENGINE CONFIGURATION

Two (2) valves per cylinder, push rod operated, maximum of 8 cylinders, single engine and internal combustion only. The nominal section of each cylinder must be circular.

## 16.4 OILING SYSTEM OPTIONS

Dry sump systems, no restriction on system - The drive shaft angle can only be parallel to the delta or angled upwards (i.e. the crankshaft center line height cannot be below the unit shaft center line height).

Wet Sump Systems — Vacuum pumps permitted

## 16.5 CONRODS/CRANK

No Titanium or aluminum.

## 16.6 ENGINE BLOCK

Cast iron only.

## 16.7 ENGINE CAPACITY

413 cubic inches (6,768 cc) maximum swept volume.

## 16.8 CAMSHAFT

One only in OEM production location. The distance between the camshaft and crankshaft center line must not exceed the OEM specification of 4.521". A .008" tolerance for machining is allowed. No restriction to valve lift or rocker ratio. Shaft mounted rockers are permitted. Offset rockers are permitted to relieve the problem of pushrod to cylinder head interference created by some aftermarket heads. Maximum offset is 0.250". Offset rockers are permitted for OEM cylinder heads where pushrod tubes have been inserted to gain port width comparable with aftermarket castings. Max offset is 0.250". Devices that vary the valve timing whilst the engine is operating are prohibited

## 16.9 CONNECTING RODS

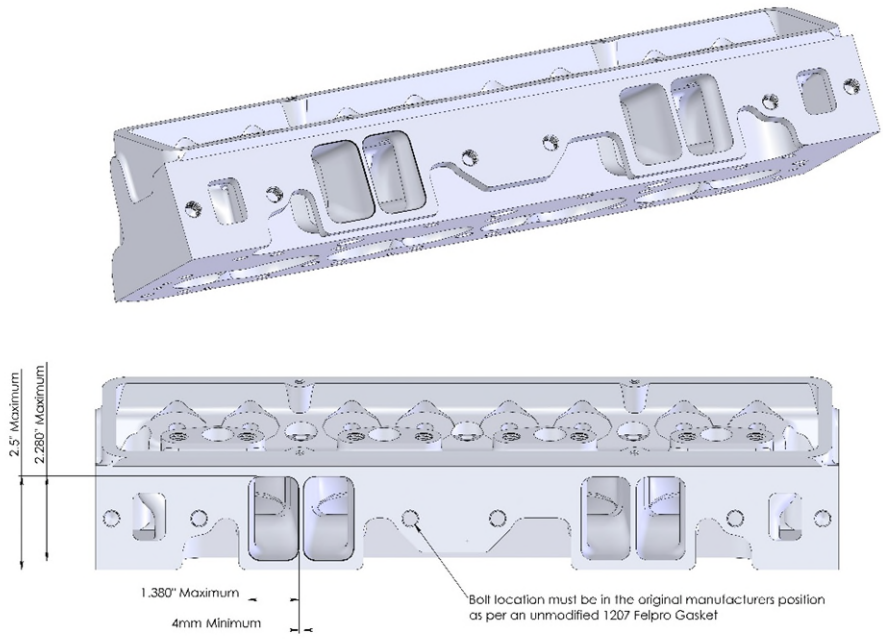
Must be of ferrous alloy material.

## 16.10 CYLINDER HEADS

Cast iron or aluminum only. OEM location and any aftermarket brands like Dart, Brodix, Profiler, AFR, Promax Standard valve spacing in relation to bore only. The valves centerline dimensions must not exceed these dimensions as follows.
Exhaust valve centerline to exhaust centerline minimum distance is 2.290" and maximum distance is 2.364"

Intake valve centerline to intake valve centerline minimum distance is 2.664" and maximum is 2.710"
Intake valve centerline to exhaust valve centerline minimum distance is 1.876" and maximum is 1.910"

Valve angle 23 degrees to block face, original cylinder head manufacturer's location only No angle milling allowed. Maximum 0.50-degree (either way) valve angle testing tolerance measured from block deck surface. Block deck surface to be 90 degrees from bore center line.




## 16.11 INTAKE PORTS

Cylinder head Intake port dimensions at manifold flange are not to exceed an unmodified Felpro 1207 gasket port opening (Felpro published dimensions 1.38"x2.28").

## 16.12 INTAKE PORT & BOLT LOCATION

OEM production location. No high port or raised runner heads. Felpro 1207 max size gasket template must be in original cylinder head manufacturers position and orientation in relation to bolt holes. No part of the intake manifold gaskets may protrude into the ports. Maximum distance of 2.500" allowed from roof of port to block surface side of head. Measurement is made along the plane of the intake flange face and not perpendicular to deck surface.
(Chevrolet specific rule only).

## 16.13 EXHAUST PORTS

OEM - No spread exhaust ports layouts allowed. Exhaust flange adaptors are permitted as long as no material from the manifold, the adaptor or any gaskets or seals protrude into the port past its original outside face.

## 16.14 EXHAUST

No Titanium headers allowed.

## 16.15 VALVES

Maximum sizes - 2.125-inch intake, 1.625-inch exhaust.
Valves may only be opened by mechanical action and can only be closed by means of coil springs. There are many after-market manufacturers that produce complying cylinder heads - GM Bowtie, Dart etc. There are also some cast iron and aluminum heads produced as "23 degree" that don't meet the specified rules. Some heads come angle milled from the factory as an example of this.

## 16.16 CARBURETOR

Naturally aspirated only via a single 4-barrel carburetor with a maximum of 4 venturis. Carburetor throttle body bores below the throttle shaft centerline shall not exceed 1-11/16-inch diameter. Butterflies or throttle blades shall not exceed 1-11/16-inch diameter. Electronic TPS measurements are allowed. **Any other electronics attached to the carburetor will need to be approved PRIOR to the season by ASBR.**

Compliance will be checked by measurement or a "Go-No Go" type gauge applied to the throttle body bore below the throttle shaft centerline.

### 16.16.1 INDUCTION

OEM bolt pattern to mount to cylinder head without spacers or adapters. No sheet metal, or tunnel ram intake manifolds allowed. The manifold must be largely unmodified externally. No additives can be discharged into the inlet track. Any device that alerts the configuration of the manifold's induction or exhaust of the engine is prohibited.

## 16.17 FORD ENGINES

Same common rules as Chevrolet engine, except:

Cylinder heads - Valve angle only 20 degrees to block face (OEM specification) Original cylinder head manufactures location only.

Intake ports - Template FELPRO gasket 1262r max size (Published dimensions 1.40" x 2.25").

Offset rockers are permitted as per Chevrolet (max 0.250").
Intake ports & manufacturers - Felpro 1262r max size gasket template must be in original cylinder head manufactures.

Bolt location - position and orientation in relation to bolt holes Maximum distance of 2.500" allowed from roof of port to block surface side of flange face and not perpendicular to deck face. Production location only.

Valves - Maximum sizes = 2.125-inch intake 1.625-inch exhaust.
Intake manifold -Any mass-produced cast intake manifold is permitted. Inlet manifold must use OEM bolt pattern and may not use spacers or adaptors to bolt up to heads to allow for differing deck heights in Ford production blocks. Manifold must be designed for deck height block used.

## 16.18 TRADITIONAL PONTIAC ENGINES

Same common rules as Chevrolet engine except.

## 16.19 CYLINDER HEADS

Cast iron only. Valve angle 14 degrees to block face (OEM specification), Original cylinder head manufacturer's location only. D-port or round port exhaust.

## 16.20 INTAKE PORTS

Template TIP gasket 120240 max size (Published dimensions 1.20" x 2.40"). Offset rockers are permitted for OEM cylinder heads where pushrod tubes have been inserted to gain port width comparable with aftermarket castings.

Max offset is 0.250".

## 16.21 VALVES

Maximum sizes - 2.110" intake, 1.770" exhaust (OEM 400 cid).

## 16.22 EXHAUST PORTS

Exhaust crossover, EGR or heat riser passages may be filled with aluminum. Epoxy may be used to seal this at the intake manifold flange.

## 16.23 INTAKE MANIFOLD

Separating the water crossover from the intake is an acceptable modification.

NOTE: Engine options may be expanded in the future provided they offer a similar power-to weight ratio.

Applications for engine consideration must be made and supported by full technical specifications. Any engine under consideration will be subject to supervised trials before approval for competition is granted.

## 16.24 Combined Rules and Limits on Modification (all makes)

No angle milling of heads allowed. Maximum 0.50 degree (either way) valve angle testing tolerance applies to factory valve angle.

Porting is permitted but no material may be added to any part of the cylinder head casting (unless specified in that engine family specific rules) Includes but not limited to aluminum ramps, epoxy, brazing, furnace cement, or similar products.

Welding is permitted for crack repair purposes only but is limited in the port, intake and exhaust runner area to a maximum of 2 repairs per cylinder head.

Welding in the chamber area for crack repair only is limited to 2 chambers per head but must not alter the shape or size of the combustion chamber.

Replacement of valve guides are not considered to be a repair.(see below).

All machine work for valve guides, spring and valve seats must remain parallel & in original cylinder head manufacturers position. No offsetting of valve guides is permitted.

Any machined surface must remain parallel to original surface.

Repair sleeves or tubes of any material may be fitted to either the head bolt or pushrod holes.

Head bolt = 1 repair max per cylinder head.
Pushrod hole/slot = 2 repairs max per cylinder head for aftermarket cylinder heads.

Pushrod hole/slot = 4 sleeves or tubes permitted per head for OEM heads to gain port width comparable with aftermarket castings. Max rocker offset is 0.250".

No restriction on intake valve seat inserts. No restriction on exhaust valve seat inserts.

## 16.25 CONTROL FUEL

Will be provided at all international meetings by the promoter and paid for by competitors of the class involved. The control fuel will be dispensed either from a central point to which each boat must come, or by smaller containers refilled from the main source. The scrutineer will be in charge of and oversees all refueling operations. Fuel tanks are not required to be drained prior to the addition of control fuel provided that a tank has maximum capacity of not more than 8 Gallons ( 30 Liters) .

## 16.26 FUEL

100 Grade Race fuel - any commercial brand purchased from a dealer. 100-116 octane non oxygenated leaded fuel. No additives allowed, the fuel must remain in as its original purchased state. This includes but is not limited to octane boosters, scent additives, and/or stabilization additive. Any altered fuel will result in disqualification for the event and possibly longer depending on the ASBR advisory committee's ruling

# 17 - Unlimited Super Boat Class:

The minimum age for the Unlimited shall be 18 years of age for drivers and 16 years of age for navigators. Proof of age will be required on demand.

### 17.1 Engine:

Any engine minimum of 231 cid must be forced induction, 350 cid to 419 cid must be fuel injected or must be multi carbureted running on methanol. All engines larger than 420 cid have no restrictions.

### 17.2 Exhaust:

Any exhaust allowed. Must meet individual track requirements. Track owners will notify the ASBR of any specific noise requirements 1 month prior to any race.

### 17.3 Fuel:

Alcohol (methanol) fuel. Booster additives, nitrous oxide, and nitro methane are not allowed. Any type gasoline is allowed. Any boat using methanol must display a red "M" on each side of the boat. Letters must be at least 7 inches tall.

### 17.4 Jet Drive:

Single unit only. Direct drive only (no gearboxes) otherwise no restriction. A functional reverse system is required. Special Regulations: Under certain circumstances, an existing Unlimited Class driver may be granted a waiver to run another lesser-class boat for that race only at the Race Controller(s) discretion.

### 17.5 Fuel Priming:

Injected or supercharged engines that require external fuel priming for starting purposes must have one crew member identified as the primary starter. This crew member will wear a minimum fireproof balaclava, arm sleeves and eye protection. An single layer fire suit will work instead of sleeving. Missing these safety requirements will result in a DNS for that round.