



2026 TECHNICAL RULES FOR OFFSHORE RACING

ALL IHRA GENERAL, COMPETITION, TECHNICAL, SAFETY AND RACING RULES APPLY. IF THIS RULEBOOK DOES NOT SPECIFICALLY ALLOW SOMETHING, YOU SHOULD ASSUME THAT IT IS ILLEGAL. THE RESPONSIBILITY FOR A TEAM'S DECISION TO PARTICIPATE IN A RACE OR TO CONTINUE RACING IS THE TEAM'S DECISION ALONE.

These rules have been developed by the International Hot Rod Association ("IHRA") to govern offshore racing under its jurisdiction. These rules provide for the orderly conduct of offshore racing events and to set forth minimum acceptable requirements for participation in any event. By participating in these events, all participants and members are deemed to have understood and agreed to comply with these rules. No express or implied warranty of safety shall result from publications of compliance with these rules. They are intended as a guide for the conduct of the sport and are in no way a guarantee against injury or death to participants, spectators, volunteers, or others. These rules are effective as of the date of printing and shall be in full force. It is the responsibility of the race member to be current and up to date with the latest version of the rules. In the case of an amendment to the rules, a new edition will be included in the amended rulebook.

This rulebook and all disputes arising from participation in IHRA-sanctioned events shall be governed by the laws of the State of Ohio, without regard to conflict-of-law principles. Venue for any legal action shall lie exclusively in the state or federal courts located within Ohio.

(PC1) - PRO Class One

PC1 – 01: Class Overview

Class	Number Format	Hull Length	Engine Type	Engine Count	Hull Type
PC1	0, 2-99	39.44' - 47'	Inboard	Twin	Catamaran

PC1 - 02: Compliance - The current PC1 rules are frozen until 2028.

PC1 - 03: Engine Specifications

- 3.1. The sole permitted engine in PC1 is the Mercury Racing 1100 QC4V engine.
- 3.2. Each engine must be IHRA approved and sealed by Mercury Racing
- 3.3. The class operates as a spec-engine format to ensure uniform power output and reliability
- 3.4. No modifications intended to increase horsepower are permitted

PC1 - 04: Tunnel Tabs - A 250 lb. weight penalty shall apply to any boat utilizing a tunnel tab

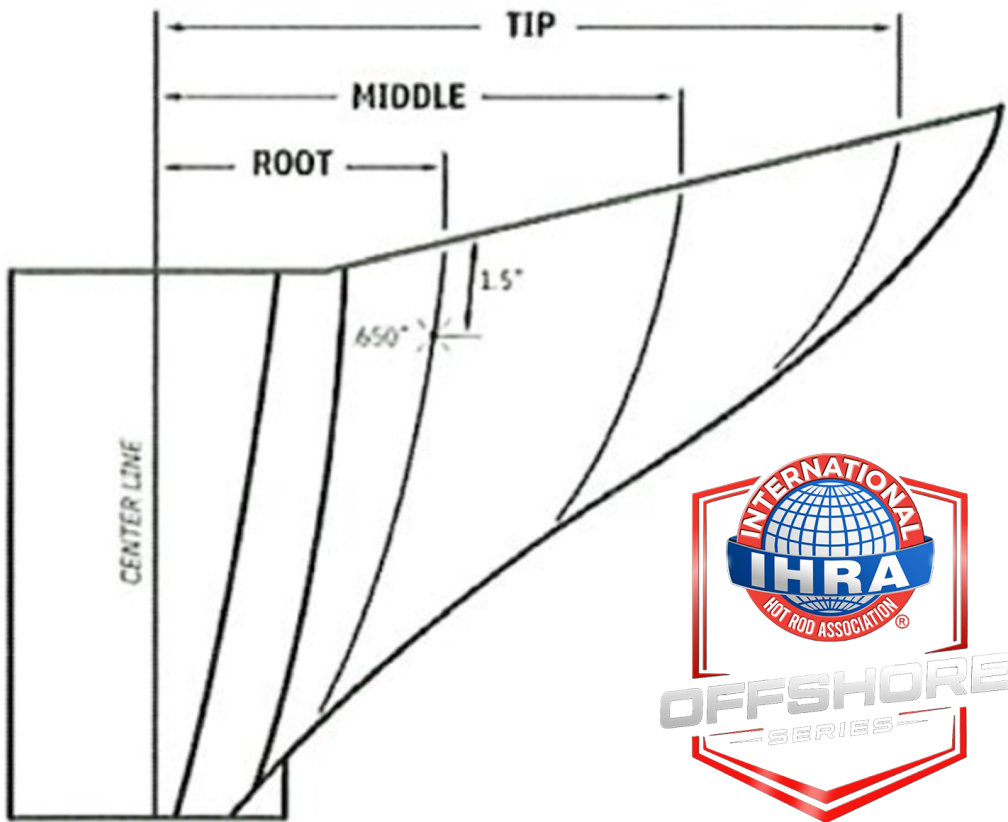
PC1 - 05: Propellers

- 5.1. Teams with quick-change drop boxes may register a maximum of 6 sets of propellers per season. All propellers must be
 - Presented to the IHRA Chief Technical Inspector for serial logging, and marking
 - Produced by IHRA approved vendor (Mercury or Hering)
 - Measured to ensure compliance with IHRA blade and hub specifications
- 5.2. Teams using fixed gear ratios may run unlimited propeller sets

Prop. Diameter (Inches)	Inspection Radii (inches)		
	Root	Middle	Tip
15	2	4 1/4	6 1/2
15.25	2	4 5/16	6 5/8
15.50	2	4 3/8	6 3/4
15.75	2	4 7/16	6 7/8
16.00	2	4 1/2	7
16.25	2	4 9/16	7 1/8
16.50	2	4 5/8	7 1/4

16.75	2	4 11/16	7 3/8
17.00	2	4 3/4	7 1/2
17.25	2	4 13/16	7 5/8
17.50	2	4 7/8	7 3/4
17.75	2	4 15/16	7 7/8
18	2	5	8

Inspection Diameter (Inches)	Leading Edge		Trailing Edge	
	Distance from edge (in)	Minimum thickness (in)	Distance from edge (in)	Minimum thickness (in)
Root	1 3/8	0.320	1 1/2	0.650
Middle	1 1/2	0.210	1 1/2	0.385
Tip	1 11/16	0.130	1	0.150



PC1 - 06: Post-Race Minimum Weight Requirements

- 6.1. Boats without tunnel tabs must weigh at least 11,800 lbs. post-race
- 6.2. Boats with tunnel tabs must weigh at least 12,050 lbs. post-race
- 6.3. No liquid or water ballast systems are permitted
- 6.4. Bilge water must be drained before weighing
- 6.5. Weight excludes crew members and personal safety gear
- 6.6. Any ballast must be solid and manually moveable only (no remote actuation)
- 6.7. Information must be posted with weights listed for all PC1 boats going in and out of the water on race days and qualifying rounds

PC1 - 07: Hull Length - All boats must measure between 39.44' and 47'

PC1 - 08: Professional Fees - Any fees or charges arising from Mercury Racing's inspections, compliance services, or engine sealing procedures are the responsibility of the relevant PC1 race team

PC1 - 09: Engine Hardware (Mercury QC4V)

- 9.1. The sole authorized engine is Mercury Racing's QC4V 1100
- 9.2. All engine hardware must remain stock as delivered by Mercury Racing
- 9.3. Hardware specifications and configuration must conform precisely to the official homologation documentation
- 9.4. Modification or relocation of any factory-installed sensors is prohibited
- 9.5. Engine will be mechanically sealed by Mercury Racing using tamper-proof seals

- 9.6. The following components shall be secured with tamper-evident wire and lock systems: front cover, oil pan, and intake manifold
- 9.7. Relocation of the factory fuel pump and modification of associated lines is permitted, with the following provisions:
- The original, unmodified fuel pump must be retained
 - Teams are responsible for extending components attached to the fuel pump
 - Installation of a water supply balancer between engines is permitted

PC1 - 10: Fuel Specification - Only unrelated gasoline rated at 93 octane or lower may be used. No additives or blending with race fuels is allowed

PC1 - 11: CAN Data Logging Compliance

11.1. To ensure compliance with stock engine regulations, Mercury Racing will provide CAN interface kits and sensors to each team on official competition days. IHRA will issue the data logger and harness. Teams are required to:

- 11.1.1. Provide an available port on a SmartCraft junction box, readily accessible for connection.
- 11.1.2. Provide a flat, horizontal, surface to mount the data logger using hook and loop fasteners.
- 11.1.3. Supply a compatible data logger, approved by Mercury Racing, to interface with the provided CAN module.
- 11.1.4. Data Logger Specifications: Capture 20Hz GPS signals, decode 30 CAN channels, housed in a rugged pelican style case.
- 11.1.5. The logger will record; PCM (Power Control Module), IAT (Intake Air Temperature), MAP (Manifold Absolute Pressure) sensor outputs.
- 11.1.6. Redundant sensors will be serialized and assigned per boat. And monitor IAT and MAP independently to validate unaltered factory data.
- 11.1.7. All redundant sensors shall be calibrated, serialized, and tracked.
- 11.1.8. Final sensor placements to be confirmed by Mercury Racing.
- 11.2: Data Oversight - Mercury Racing will provide analysis personnel or furnish data review templates to IHRA technical committee
- 11.3 Smartcraft System Restrictions
- Devices connected to the smartcraft network must serve measurement only
 - Signal modifications or interference with smartcraft outputs is strictly prohibited
 - All devices connected to the system are subject to inspection by IHRA officials

PC1 - 12: Crew Control and Systems - To ensure safety and competitive parity, the following technical restrictions apply to all control related systems aboard PRO CLASS 1 boats:

12.1. Steering Configuration

- Boats may utilize either drives or rudders for steering, but not both simultaneously.
- Steerable drives must be homologated and approved by IHRA prior to use.
- Dual installations (rudder and stern drive) are permitted under the following conditions:
 - When steering with a rudder, the stern drive system must be mechanically fixed.
 - When steering with a stern drive, the rudder must be completely removed.

12.2. Rudder Axis Limitations

- Rudders must pivot on a single axis only.
- Adjustable, retractable or multi-axis rudder systems are prohibited.
- Only FIXED position rudders are allowed

12.3. Drive Synchronization

- Drive units must be mechanically synchronized using fixed-length tie bars with secure attachment points.
- Independent movement or steering of drives (toe-in/toe-out under way) is prohibited.

12.4. Gyroscopic Stabilization Systems

- Use of any auto-stabilizing gyroscope or gyro-assist system is prohibited

12.5. Traction and Acceleration Control

- No electronic, mechanical, or hybrid traction control or launch assist systems are permitted.

12.6. Trim System Automation

- Programmable, automatic, or computer-controlled trim systems are prohibited.
- All trim operations must be performed manually by the onboard crew.

12.7. Monitoring Devices and Potentiometers

- Potentiometers and other monitoring sensors may be used for data acquisition only.
- Such devices may not provide automatic control feedback or correction.

12.8. Manual Input Enforcement Rule - All control inputs related to trimming, throttling, steering, or ballast management must be performed manually by onboard crew members. No mechanical, electronic, hydraulic, pneumatic, or software-based system may be connected or interfaced in any manner that introduces autonomous control or influence over vessel performance.

PC1 - 13: Post Race Technical Inspection - Upon completion of each IHRA event, up to the top four (4) finishing boats may be subjected to a post-race technical inspection. Areas of inspection include but are not limited to electrical, engine, and mechanical systems.

13.1. Engine Electrical Harness Integrity

13.1.1. Electrical harness modifications of any kind are prohibited.

13.1.2. Any incidental repairs to harnesses must be reported, documented, and approved by IHRA officials prior to competition.

13.1.3. All such repairs must be re-verified and approved by technical inspectors before the boat may return to competition.

13.1.4. Modification or relocation of factory-installed engine sensors is strictly prohibited under all circumstances.

13.1.5. All engine electrical harnesses will be visually inspected for signs of unauthorized modifications, repairs, or tampering.

13.2. Camshaft Verification Protocols

13.2.1. Top Dead Center (TDC) shall be determined using a piston stop and a degree wheel to ensure precision.

13.2.2. Intake and exhaust camshaft centerline angles will be measured in relation to the established TDC for each engine.

13.2.3. Official reference values for each cylinder's camshaft centerline will be stored in a secure IHRA scrutineering document.

13.2.4. Base circle diameters and cam lobe geometry will be subject to random checks for conformity.

13.2.5. Mercury Racing shall provide certified go/no-go gauges to enforce the integrity of camshaft inspections.

13.2.6. IHRA reserves the right to inspect camshaft profiles and timing for conformance with approved specifications.

13.3. Ignition Timing Advance Check

- 13.3.1.** Determine Top Dead Center (TDC) for Cylinder #1 using a piston stop and precision degree wheel.
- 13.3.2.** Verify or establish a timing reference mark on the crank encoder corresponding to TDC for cylinder #1. Mercury Racing will provide a calibrated timing pointer tool for use with a standard timing light.
- 13.3.3.** Conduct ignition timing verification:
 - Engines must be operated in neutral on a hose at a controlled RPM above idle.
 - Spark advance must be within $\pm 1^\circ$ of the factory Mercury calibration.
 - A designated, approved timing light will be used (model TBD)
- 13.3.4.** Inspect all tamper-proof hardware seals on engine components. Serial numbers must match those on file with IHRA and Mercury Racing.
- 13.3.5.** Remove crossover manifold and inspect dummy throttle orifice to confirm correct specification and configuration.
- 13.3.6.** Measure key-up fuel pressure (ignition ON, engine OFF). Fuel pressure must not exceed 420 kPa.
- 13.3.7.** To verify engine integrity and ensure no unauthorized ignition modifications have been made, IHRA and Mercury Racing may conduct ignition timing checks following race events.

(SC) - Super Cat

SUPER CAT GENERAL RULES

SC - General Rule 01: Class Overview

Class	Number Format	Hull Length	Engine Type	Engine Count	Hull Type
SC	0, 2-99	34' - 42'	Inboard	Twin	Catamaran

SC - General Rule 02: General Specifications

2.1. Post Race Minimum Weight - Final boat weight will be verified using the official IHRA offshore scale at the start and conclusion of each race. The measured weight includes:

- 9,500 lbs.
- Engines, drivelines, residual fuel, propellers, fixed ballast, and required safety equipment.
- Hull drain plugs must be removed prior to weighing

***Exclusions:** Crew, personal safety equipment (helmets, jackets), and bilge water are not included in the measured weight.

2.2. Canopied Cockpit -All race boats must comply with the 2022 Lavin cockpit guidelines, including:

- A single, integrated canopy.
- Two side-by-side seats
- Canopy centered on the vessel's longitudinal centerline

2.3. Emergency Escape Hatch - Each catamaran must be equipped with a bottom-mounted emergency escape hatch located within the tunnel.

2.4. Braking Systems - The use of any braking system or drag-including mechanism is strictly prohibited.

2.5. Engine Compartment Standards - All engine compartments must utilize rigid hatches or covers.

2.6. Exclusivity Prohibition - All boats and major components used in competition must be commercially available at reasonable market prices. Exclusive distribution or component agreements are not permitted for any competitor.

2.7. Exhaust Systems - Must use water jacketed manifolds from the engine outlet to the hull exit point. Exhaust must be rerouted to avoid exposure of the crew members to fumes.

2.8. Inspection Costs - Boat owners or team managers will be financially responsible for any out of scope of extraordinary technical inspection costs incurred by IHRA.

SC - General Rule 03: Fuel and Related Systems

3.1. Fuel Type

- Only gasoline with a maximum octane rating of 93 or lower.
- The use of additives is strictly prohibited.
- Penalty for Violation: Immediate disqualification from the event.

3.2. Electric Fuel Pump Shutoff - Electric fuel pumps must automatically shut off when the ignition kill switch is engaged.

3.3. Fuel Containment Requirements

- All fuel must be contained within secure, grounded through deck tanks.
- Mid-race fuel transfer is strictly prohibited
- Fuel system vents must discharge externally, overboard from the hull.

SC - General Rule 04: Equipment Approval and Measurement

4.1. Technical Approval Requirement

- All boats and engines must receive approval from the IHRA tech committee.
- Hulls must be produced using an IHRA approved production mold.
- Custom or one-off hulls are not permitted in competition.

4.2. Engine Specifications - Engines must be gasoline-based automotive blocks sold through regular distribution channels and made publicly available.

4.3. Hull Measurement Protocol

- Swim platforms and other transom-mounted extensions are excluded from length measurements.
- No bow or stern extensions may be used to meet minimum length requirements.

SC - General Rule 05: Hardware and Structural Requirements

5.1. Lifting Equipment - All boats must be equipped with a certified four point lifting harness.

5.2. Deck Safety Requirements - A non-skid deck surface is required from the stern forward and around the cockpit area to ensure crew safety during ingress/egress and rescue.

5.3. Aerodynamic Devices - Aerodynamic features such as wings, flaps, or moveable deck elements are strictly prohibited.

5.4. Trim Systems - Trim tabs and tunnel tabs are permitted, whether fixed or adjustable.

SC - General Rule 06: Post-Race Compliance

6.1. Mandatory Weigh-In - All boats must report to the official IHRA scale following the conclusion of their race.

SC - General Rule 07: Environmental Control

7.1. Cockpit Air Conditioning

- Air conditioning systems are allowed only for cooling the cockpit.
- Systems must utilize a standard automotive type of compressor.

7.2. Prohibited Cooling Zones

- Use of air conditioning to cool fuel tanks or engine compartments is not allowed under any circumstances.

SC - General Rule 08: Safety Configurations

8.1. Bow Planes - Anti-stuffing bow planes or similar forwards-mounted aerodynamic or hydrodynamic control surfaces are prohibited.

SC - General Rule 09: Propellers

9.1. IHRA Approval Required - All propellers used in Super Cat must be of a type approved by IHRA's technical committee.

9.2. Manufacturer Certification - Manufacturers may submit propeller designs for IHRA approval.

9.3. Construction Standards

- Propellers must be manufactured using stainless steel castings.
- The use of forged, billet, magnesium, titanium, or other exotic alloys is strictly prohibited.

9.4. Permissible Modifications - Propellers may be modified by any of the following methods:

- Blueprinting
- Lab Finishing
- Polishing

- Grinding
- Welding
- Machining

9.4.1. Conditions for modified propellers:

- Must maintain minimum blade thickness
- Must remain structurally sound and capable of passing IHRA tech inspection
- Modified propellers must be commercially available to all competitors within four (4) weeks of introduction at a reasonable market price

9.5. Minimum Thickness Specifications - All Super Cat propellers must meet or exceed the minimum blade thickness values defined in the IHRA Propeller Inspection Matrix:

- Measurements shall be taken using the IHRA approved inspection tools and procedures
- Inspections may be conducted post-race or at the discretion of IHRA technical officials, and all findings are subject to official certification

9.5.1. Propeller Blade Thickness Specifications - Minimum allowed blade thickness at three defined radii - Root, Middle, and Tip, must conform to both leading edge and trailing edge minimums. These are defined below:

Super Cat SSM Cleaver Propeller - Minimum Blade Thickness				
Inspection Radius	Leading Edge-Distance (in)	Min. Thickness (in)	Trailing edge-distance (in)	Min. Thickness (in)
Root	1 3/8"	0.283"	1 1/2"	0.475"
Middle	1 1/2"	0.182"	1 1/2"	0.302"
Tip	1 11/16"	0.115"	1"	0.130"

SC - General Rule 10: Forced Air Induction Prohibition

- 10.1.** Forced air induction is strictly prohibited
- 10.2.** The air intake path from an external opening to the flame arrester or carburetor may not be fully sealed
- 10.3.** Pressurization or sealing of the engine compartment is not allowed under any circumstance
- 10.4.** Fresh air ducting must be located no closer than two inches from any surface of the engine or flame arrester
- 10.5** The vent area of the engine compartment must be equal to or greater than the total area of all air scoops combined

SC - General Rule 11: Ballast Regulations

- 11.1.** Fixed ballast is permitted
- 11.2.** Water ballast tanks are prohibited
- 11.3.** Remote or automated ballast transfer, including the redistribution of fuel or other fluids, is strictly prohibited.
- 11.4.** Manual repositioning of solid ballast is permitted only when the vessel is stopped, and only if the movement can be performed safely. This adjustment may occur after entering the racecourse area and before starting the race.

SC - General Rule 12: Engine Hatch Access

- 12.1. Engine hatches may include scoops or remain flush, at the discretion of each team
- 12.2. Once the race has concluded, no competitor may open or remove the engine hatch until the boat has been officially presented for post-race inspection.
- 12.3. During a race, engine hatches may only be opened to address legitimate emergency repairs.
- 12.4. Any hatch opening that occurs outside of these stated allowances shall result in disqualification, unless:
 - The IHRA inspection team verifies the presence of a legitimate emergency
 - Supporting video evidence confirms with emergency action protocols

SC - General Rule 13: Gyro and Accelerometer Restrictions - All boats must strictly adhere to the specifications listed in this section. These rules are in addition to the general offshore technical requirements and are enforced by IHRA's technical committee

SUPER CAT TECHNICAL RULES

SC - Technical Rule 01: Boat Specifications

Component / Parameter	Specification
Hull	Catamaran
Length	35' - 42'
Engines	Twin I/O Engines
Beam Maximum	12'0"
Tunnel Width	< 66"
Height Minimum	48"
Post Race Minimum Weight	9,500 lbs.

SC - Technical Rule 02: Engine Specifications

2.1. **General** - All engines must conform to IHRA Super Cat rules. Any deviations are subject to disqualification unless otherwise approved in writing by the IHRA technical committee.

2.2. Engine Blocks

Component / Parameter	Specification
Displacement - Maximum	510 CID
Displacement - Minimum	495 CID
Compression Ratio	9:5:1

- Compression ratio must be verified using a IHRA approved whistler
- At IHRA's discretion, cylinder head removal may be required for precise volume measurement

Additional Engine Block Criteria:

- Engine Rotation: Standard rotation only.
- Block Construction: Only cast-iron blocks are permitted, billet main caps are permitted.
- Approved Block Types;
- GM Big Block Chevy-type blocks with 9.8” or 10.2” deck heights.
- Manufactured by;
 - General Motors
 - World Products “Merlin”
 - Dart
- Other manufacturers: Must be individually approved by IHRA
- Cylinder sleeves: Permitted for repair purposes only
- Cylinder bore centers: Must remain in OEM locations
- Maximum bore size: 4.605”

SC - Technical Rule 03: Internal Engine Components

Component / Parameter	Specification
Crankshaft, Connecting Rods, Pushrods, and Wrist Pins	Must be manufactured from Steel
Prohibited Materials	Titanium and any other exotic or non-ferrous alloys are not permitted
Wrist Pin Diameter	0.990”
Pistons - Permitted	Forged aluminum only
Pistons - Prohibited	Titanium or any other exotic metal
Crankshaft Stroke	Maximum Stroke: 4.000”
Bore	Maximum Bore: 4.605”

Crankshaft Design: Single plane crankshafts are prohibited. Crankshaft throws must be timed according to OEM specifications.

SC - Technical Rule 04: Engine Lubrication

Component / Parameter	Specification
Wet Sump	Wet sumping and internal oil pumps are allowed.
Dry Sump	External oil pumps and dry sumping are permitted but limited to no more than three scavenging pump sections.
Filter Screens	Allowed, but must be flush mounted and may not restrict oil return to the crankcase.
Intake Valley	Must remain as cast. No damming, raised

	sections, or alterations permitted. All oil must return internally through original factory passages. Returning oil externally to the crankcase oil pan by any other method is prohibited.
--	--

SC - Technical Rule 05: Cylinder Heads

Component / Parameter	Specification
Cylinder Head Location	Must remain OEM location
Approved Cylinder Head	Brodix SP BB-2 PLUS. Factory identification number is required to be displayed on all cylinder heads.
Chamber and Port Work	CNC or hand-shaping of chambers, exhaust, and intake ports is permitted
Blending	Grinding or blending of CNC-machined valve and chamber work is permitted
Port Resizing	Permitted
Grinding and Polishing	Permitted through ports and chamber
Repairs	Cylinder head repairs are permitted
Millings	Angle milling of the head surface is permitted
Head Bolts	Two additional head bolts per cylinder head are permitted, installed through block bosses in the lifter valley to the underside of the head

SC - Technical Rule 06: Valve Systems

Component / Parameter	Specification
Number of Valves	Two per cylinder, operated by pushrods. One camshaft, located in the block, in the OEM location
Intake Valves	Stainless Steel or Titanium. No pneumatic, hollow stem, or ceramic valves.
Exhaust Valves	Stainless Steel, Super Alloy, or Inconel. No titanium or exotic metals.
Valve Stem Min. Diameter	11/32"
Variable Cam Timing	Prohibited

Maximum Gross Cam Lift	0.720" (zero lash), measured at the valve
Camshaft Location	OEM location
Lifter Bores	May not be changed from the OEM location
Lifter Sleeves	May be used; OEM lifter bore location must not be altered
Lifters	Pushrod must ride in the center of the lifter, offset lifters are not permitted
Pushrods	OEM location
Valve Spring Cooling	Permitted using internal engine oil
Offset Head Guides/Mounting	Prohibited
Spring Retainers	Any material and design may be used, unless otherwise restricted
Rocker Arm	Ratio: 1.7, Any type or design may be used, unless otherwise restricted
Rocker Stud Girdle	Permitted

SC - Technical Rule 07: Ignition

Component / Parameter	Specification
Distributor	Must remain in the OEM location
Spark Distribution	Must be through distributor rotor and cap only
Electronic Ignition	MSD 6M-2L (P/N: 6560)
Crank-Triggered Ignition	Crank trigger to be only ignition source, P/N:8620 (red), or #86203 (black)
Belt-Drive Ignition	Prohibited
Ignition Coils	Limit: one coil per engine
Backup Ignition Systems	Prohibited
Rev Limiter	Engine speed is limited to 7,000 RPM. A Motec data logger will be installed by IHRA to verify race data and RPM. Rev Chips will be issued and handled by IHRA.

7.1. The system must allow post-race verification of RPM data by IHRA inspectors

7.2. The entire race RPM history must be recorded and verifiable

7.3. The data logger wiring harness must be easily accessible for inspection

7.4. Dual RPM limiter systems or ignition redundancy is prohibited

SC - Technical Rule 08: Intake Manifold

Component / Parameter	Specification
Approved Intake Manifold	Brodix P/N: HV 2001-A and HV 2005-A. Other intakes may be used in OEM as manufactured condition.
Modifications	Prohibited
Welding	Prohibited
Porting	Allowed within 1.5" of the cylinder head mating surface
Carburetor Spacing	2.5" total height

SC - Technical Rule 09: Induction System

Component / Parameter	Specification
Number of Carburetors	One per engine
Approved Carburetor	Holley Dominator 4500 series
Fuel Injection	Fuel injection systems are strictly prohibited
Blueprinting	Permitted

SC - Technical Rule 10: Exhaust System

Component / Parameter	Specification
Materials	Only CMI fabricated headers are permitted
Approved OEM Headers	CMI Sweeper Style for 525 EFI or GEN X replacement header. Straight back version is acceptable.
Collector Shape	Standard CMI Collector
Exhaust Pipe	Both X and Y pipes are permitted
Cooling Requirements	The exhaust system, from the engine outlet to the point of exit through the hull or deck, must be water-cooled using external water jackets.

SC - Technical Rule 11: Transmission

Component / Parameter	Specification
Single Speed Transmission	Permitted with neutral, forward, and reverse operational
Multi-Speed Transmission	Prohibited
Power Source	All transmissions power must be derived solely from the main engines

SC - Technical Rule 12: Outdrives

Component / Parameter	Specification
Approved Drive	Only the Mercury Racing SSM V1/M6 outdrive is approved for use in Super Cat. The skeg thickness must conform to the IHRA template
Dropdown Box	Prohibited
Shaft Boxes	Prohibited
Drive Modifications	Prohibited. All internal components must remain as produced by Mercury Racing, including all original gears and shafts
Gear Ratio	1:61:1 (1.607:1) is the only approved gear reduction ratio
Propeller Aerators	Permitted

SC - Technical Rule 13: Crew Control and Systems

13.1 Trim System Automation- Programmable, automatic, or computer-controlled trim systems are prohibited. All trim operations must be performed manually by the onboard crew.

13.2 Monitoring Devices and Potentiometers- Potentiometers and other monitoring sensors may be used for data acquisition only. Such devices may not provide automatic control feedback or correction.

13.3 Manual Input Enforcement Rule- All control inputs related to trimming, throttling, steering, or ballast management must be performed manually by onboard crew members. No mechanical, electronic, hydraulic, pneumatic, or software-based system may be connected or interfaced in any manner that introduces autonomous control or influence over vessel performance.

(FS) - Factory Stock

Factory Stock Specifications

Component / Parameter	Specification
Length	35' - 40'
Maximum Beam	11'6"
Maximum Tunnel Width	72"
Height	> 44" measured from keel to deck, forward of the canopy
Post-Race Weight	6,750 lbs.
Dedicated Mold	Factory dedicated mold constructed by a registered boat builder with a minimum of 3 current pleasure models
Engine Type	Twin Mercury 500R competition engines
Maximum RPM	6,800 RPM
Open Exhaust	Mercury OEM P/N #8M0245100

FS - 01: Dimensions

Component / Parameter	Specification
Tunnel Width Measurement	Measured at the keel of the boat
Minimum Height Measurement	Boats must measure at least 44" from the keel to the deck, forward of the canopy (not including the canopy)
Aerodynamic Devices	Prohibited
Trim/Tunnel Tabs	Permitted, whether fixed or adjustable

FS - 02: Engine Specifications

Component / Parameter	Specification
Approved Engines	Mercury 500R competition engine
Engine Configuration	Engines must remain in stock factory configuration. No modification allowed.
Cowling	Lightweight facsimiles of OEM cowlings are permitted. Manufacturers decals must be

	displayed. External intakes may be added.
Powerhead	Must remain unmodified and as produced by the manufacturer
Balancing / Blueprinting	Prohibited, including “cleaning up”, “bringing to spec”, or altering any reciprocating part. No material may be added or removed. Media and bead blasting are prohibited
Compression Ratio	May not be altered under any circumstances
ECU	OEM unaltered from the manufacturer

FS - 03: Rev Limiter

Component / Parameter	Specification
RPM Limit	6,800 RPM
Data Logging System	G2X Pro Data Logger or AIM system must be installed and maintained to monitor RPM
Post-Race Verification	RPM data must be verifiable on the data logger by an IHRA inspector during post-race inspection
Accessibility	The wiring harness must be readily accessible
Redundancy / Dual Systems	Dual systems or additional ignition components are prohibited
Compliance Requirement	RPM history for the entire race must be recorded, retained, and reviewable by IHRA inspector’s post-race.

FS - 04: Flywheel

Component / Parameter	Specification
Flywheel	OEM stock flywheel

FS - 05: Lower Units

Component / Parameter	Specification
Approved Models	Mercury 450R or 500R competition lower unit
Configuration	Must remain in factory stock configuration
Gear Ratio	1.60:1

Blueprinting / Truing	Prohibited
Media / Bead Blasting	Prohibited
Skeg Modification	The leading edge of the skeg may be blended up to 1" from the leading edge
Water Pickups	Maximum diameter of 5/16" is allowed

FS - 06: Propellers

Component / Parameter	Specification
Approved Models	OEM Mercury Racing #4 or #5 series propellers may be used
Forged Propellers	Prohibited

FS - 07: Steering

Component / Parameter	Specification
External Steering	Hydraulic steering is required

FS - 08: Transom Brackets

Component / Parameter	Specification
Transom Brackets	Power adjustable equipment not permitted

FS - 09: Interpretation of Rules

Component / Parameter	Specification
Rule Interpretation	In the event of a dispute or ambiguity, the interpretation and application of these rules by IHRA shall be final and binding

FS - 10: Canopy Requirements

Component / Parameter	Specification
Compliance Standard	All Factory Stock class boats must use cockpit safety systems that comply with the 2022 Lavin cockpit guidelines
Documentation Requirement	It is the sole responsibility of the race boat owner to maintain a copy of the applicable Lavin guidelines for inspection
Non-Compliance Consequences	The Chief Referee and Safety Director have

	the authority to deny entry to any team that does not meet these requirements
--	---

FS - 11: Enforcement and Competitive Balance

Component / Parameter	Specification
Rule Enforcement Purpose	These rules are intended to ensure competitive balance among teams within the Factory Stock Class
IHRA Enforcement Authority	IHRA reserves the right to inspect, impound, or prohibit any part, component, or boat that, in its sole and absolute discretion, provides or may provide an unfair competitive advantage
Penalty Scope	All parts or components deemed illegal shall become the property of IHRA
Penalty Reference	See Post- Race Technical Inspections.

FS - 13: Crew Control and Systems

13.1 Trim System Automation- Programmable, automatic, or computer-controlled trim systems are prohibited. All trim operations must be performed manually by the onboard crew.

13.2 Monitoring Devices and Potentiometers- Potentiometers and other monitoring sensors may be used for data acquisition only. Such devices may not provide automatic control feedback or correction.

13.3 Manual Input Enforcement Rule- All control inputs related to trimming, throttling, steering, or ballast management must be performed manually by onboard crew members. No mechanical, electronic, hydraulic, pneumatic, or software-based system may be connected or interfaced in any manner that introduces autonomous control or influence over vessel performance.

(MV) - Modified Vee

MV Specifications

Component / Parameter	Specification
Hull Type	Monohull
Hull Length	29'-32'
Max. Beam	8' 6"
Number of Engines	1

MV - 01: Hull Configuration and Steps

Component / Parameter	Specification
Deck Extensions	Permitted and not included in overall length
Hull Steps	Permitted and must be vented

MV - 02: Post Race Minimum Weight

Component / Parameter	Specification
Single & Twin Step Hulls	Minimum: 4,750 lbs.
Triple+ Step Hulls	Minimum 5,000 lbs.
Weight Includes	Essential racing equipment
Weight Excludes	Crew, moveable ballast, lifting straps
Lifting Harness	Single point lifting harness with bow high configuration

MV - 03: Cockpit and Safety Systems

Component / Parameter	Specification
Canopy Requirement	All boats must have enclosed canopy safety systems.
Seating Layout	Side by side only
Safety Systems	Must include Canopy hatches with positive open/close. Five-point harness. Onboard O2 system.
Compliance Authority	IHRA reserves the right to deny entry for non-compliant safety systems.

Best Practice Reference	2022 Lavin Canopy Safety Standards
Polycarbonate Windshields	Required per Lavin Standards

MV - 04: Ballast

Component / Parameter	Specification
Solid Ballast	Permitted
Water Ballast	A single water ballast tank is permitted
Inspection Requirement	Water ballast systems will be inspected pre & post-race to ensure they are empty
Labeling	Water ballast tanks must be clearly labeled
Multi-Tank Transfers	Prohibited

MV - 05: Prohibited Components

Component / Parameter	Specification
Braking Systems	Prohibited
Aerodynamic Devices	Wings, airfoils, movable deck surfaces are prohibited
Anti-Stuff Bow Planes	Prohibited
Exclusivity Agreements	Prohibited for competition components

MV - 06: Deck & Engine Compartment Standards

Component / Parameter	Specification
Non-Skid Surfaces	Must be applied from transom forward and around canopy
Engine Compartment	Must have rigid hatch covers with highly visible color underside

MV - 07: Approved Engine

Component / Parameter	Specification
Engine Type	IHRA approved race engine
Model	Mod Vee 510 CID Engine

MV - 08: Engine Configuration and Components

Component / Parameter	Specification
Displacement	510 CID
Crankshaft	4" Stroke OEM Crankshaft
Compression Ratio	9:0:1
Camshaft	Solid Lifter Roller Cam Permitted
Max Cam Lift	Intake: 0.610" Exhaust: 0.632"
Timing	Stock gear timing chain permitted
Engine Block	Chevrolet designed OEM spec block from General Motors, World Products, or Dart
Internal Materials	Crankshaft, Flywheel, Connecting Rods, Pushrods, and Wrist Pins must be steel only

MV - 09: Cylinder Heads

Component / Parameter	Specification
Approved Cylinder Heads	Dart Pro 1: Part Numbers; #19100010M(Bare) or, #19100112M(Complete)
Permitted Modifications	None, must remain stock OEM specifications with no modifications.
Rocker Arm Ratio	1.7
Serial Numbers	Must remain visible and unaltered
Alternate Options	Stock mercury 525 OEM cylinder head, with spring pressure modification and solid lifter camshaft.

MV - 10: Induction and Intake

Component / Parameter	Specification
Intake Manifold	OEM cast intake manifold, compatible with Holley 4150 base carburetor
Prohibited Manifolds	Fabricated or tunnel ram manifolds are prohibited
Port Matching	Port matching up to 1.5" is permitted

Induction System	One Holley 4150 style carburetor
Prohibited Carburetor	Forced induction, carb spacers and adapters are prohibited

MV - 11: Lubrication Systems

Component / Parameter	Specification
Oil System	External oil pumps, dry sumps, and scavenging pumps are prohibited
Intake Valley	OEM as cast no damming, raised sections, or modifications allowed

MV - 12: Ignition Systems

Component / Parameter	Specification
Ignition Components	MSD Digital or Analog Ignition
Crank Triggers/Belt Drive	Prohibited
RPM Limiter	Maximum RPM: 5,600 RPM

MV - 13: Rev Limiter and Data Logging

Component / Parameter	Specification
RPM Limit	5,600
Data Logger	Race Pack Data Logger
Post-Race Verification	Data must be verifiable by IHRA

MV - 14: Engine Rebuilds and Maintenance

Component / Parameter	Specification
OEM Compliance	Maintenance and rebuilds must use OEM parts and specs. Except where explicitly approved in writing by IHRA
Displacement Limit	Rebuilds may not exceed 510 cid
Compression Limit	Must remain 9:0:1
Aftermarket Blocks	502 cid GM aftermarket blocks are permitted with IHRA written approval

MV - 15: Exhaust System Specifications

Component / Parameter	Specification
Exhaust Manifolds & Headers	OEM unmodified stock exhaust system as produced by the manufacturer. Any modification must be approved by IHRA.
Approved Headers	CMI Gen X Style, Mercury 525 EFI Style, CMI Straight Back Sweeper, Innovation Marine Tractor Style. No stepped headers, y-pipes, or mods allowed
Tailpipes and Exhaust Tips	Any tailpipe or exhaust tip is permitted. May exit gunwale or transom. Cannot exceed 12" passed outside of the boat.
Dry Exhaust	Permitted, if water-jacketed
Cooling Water Flow	All engines cooling water must flow through the exhaust elbow/tailpipe and exit to; exhaust, onboard ballast, or through hull fitting.

MV - 16: Outdrive Specifications

Component / Parameter	Specification
Drive Models	Bravo One, XZ, XR. Sportmaster/Short Sportmaster XR. BMAX. IMCO SC/SCX. Volvo DPX Duoprop.
Dry Sumping	Prohibited
Crash Boxes	Prohibited
Gear Ratio	1.50:1 at the prop shaft
Shifting Requirements	With the engine running, the drive must shift forward, neutral and reverse.
Transmission	Prohibited
Stand-off Boxes	Must be IHRA approved and <12"
Jackshafts	Permitted

MV - 17: X-Dimension, Parity, and Casing Rules

Component / Parameter	Specification
X Dimension Maximum	1" below the bottom, measured from the centerline of the prop shaft, in neutral trim

IHRA Parity	IHRA reserves the right to adjust the minimum weight of a team after 3 consecutive wins
Casing Requirements	Upper and lower casings must remain in OEM stock configuration. Blueprinting and relocation of water pickups are permitted, while matching the IHRA templates for OEM sizing
Propeller Rotation	Left or right permitted
Water Pickups	Through-hull pickups prohibited
Engine Cooling	Cooling water must be drawn through the outdrive in the stock configuration

MV - 18: Propeller Specifications

Component / Parameter	Specification
Propeller Construction	Manufactured from castings
Modifications	Modifications are allowed by grinding and machining, provided the base is a factory casting
Forged or Billet Propellers	Prohibited
Availability Requirement	Propellers must be commercially available to all racers
IHRA Approval	All cast propellers must be approved by IHRA
Pre-Approved Manufacturers	Hering, Hydromotive, Chopper, Dewald, Mercury
Over-the-hub propellers	Prohibited

MV - 19: Crew Control and Systems

13.1 Trim System Automation- Programmable, automatic, or computer-controlled trim systems are prohibited. All trim operations must be performed manually by the onboard crew.

13.2 Monitoring Devices and Potentiometers- Potentiometers and other monitoring sensors may be used for data acquisition only. Such devices may not provide automatic control feedback or correction.

13.3 Manual Input Enforcement Rule- All control inputs related to trimming, throttling, steering, or ballast management must be performed manually by onboard crew members. No mechanical, electronic, hydraulic, pneumatic, or software-based system may be connected or interfaced in any manner that introduces autonomous control or influence over vessel performance.

(SV) - Super Vee

Super Vee Specifications

Component / Parameter	Specification
Hull Type	Twin Engine Monohull
Length	35' - 46'
Beam	< 9'3"
Height	> 48" Measured forwards of canopy, canopy not included
Post-Race Minimum Weight	9,000 lbs.

SV - 1: Weigh-In Procedure

Component / Parameter	Specification
Post-Race Weigh Out	Must occur immediately following the race, at IHRA's designated crane
Responsibility	The team must ensure all ballast tanks are empty, the lifting harness enables the boat to drain through the removed hull plug, with all belongings, helmets, jackets, and tools removed from the boat
Weight Includes	Engines, Fuel, Drivelines, Propellers, fixed ballast, safety equipment
Missed Weight	2-minute penalty or DQ for intentional deception

SV - 2: Canopy & Safety Systems

Component / Parameter	Specification
Canopy Requirement	All Super Vee teams must have enclosed canopies
Damaged Canopy Documentation	Canopies must be reconstructed to the 2022 Lavin rulebook
IHRA Authority	IHRA may deny entry for any boat with non-compliant safety systems

SV - 3: Engine Specifications

Component / Parameter	Specification
Displacement	572 cid per engine
Compression Ratio	9:5:1 measured by IHRA whistler
Valve System	2 valves per cylinder, operated by pushrods
Variable Cam Timing	Prohibited
Maximum Cam Lift	0.740", Measured at the valve (zero lash)

SV - 04: Engine Blocks

Component / Parameter	Specification
Block Material	Cast iron, painting permitted
Approved Manufacturers	GM, World Products (Merlin), Dart, or a manufacturer explicitly approved by IHRA
GM Configuration	Blocks with 9.8" or 10.2" deck heights permitted
Sleeves or Bushings	Permitted if OEM lifter bore location is unchanged
Pushrods	Must ride centered in lifter, offset lifters are prohibited

SV - 05: Internal Components

Component / Parameter	Specification
Materials Permitted	Crankshaft, connecting rods, pushrods, and wrist pins must be steel
Materials Prohibited	Titanium or other exotic materials
Crankshaft Configuration	Single plane crankshafts are prohibited. Throws must follow OEM timing specification

SV - 06: Cylinder Heads

Component / Parameter	Specification
Permitted Cylinder Heads	Dart Pro-1 CNC Ported Aluminum Cylinder Head, P/N: 19574030
Head Modifications	Prohibited, no modification to the castings will be permitted

Repairs	Must be performed by Dart only
Serial Numbers	Must remain intact, legible, and unaltered

SV - 07: Intake Manifold

Component / Parameter	Specification
Intake Type	Stock cast intake manifold only
Port Matching	Allowed up to 1.5" from the cylinder heads
Prohibited	Fabricated or tunnel ram manifolds
Carburetor Spacer	< 2.5" spacer between carb and manifold

SV - 08: Induction System

Component / Parameter	Specification
Induction Type	Naturally aspirated only
Approved Carburetor	Holley Dominator Style
Fuel Injection	Prohibited
Fuel	No additives or oxygenated fuel permitted

SV - 09: Exhaust System

Component / Parameter	Specification
Materials	Any
Shape/Modifications	Any
Cooling Requirements	Must be water cooled via water jackets from engine outlet to hull/deck exit
Fume Safety	Exit must be positioned to prevent crew exposure to exhaust fumes

SV - 10: Transmission Systems

Component / Parameter	Specification
Forward/Neutral/Reverse	The drive system must be capable of engaging forward/neutral/reverse. Shiftable crash boxes, while the engines are running, are not permitted. Hydraulic one-speed transmissions permitted.

Multi-Speed Transmissions	Strictly prohibited.
---------------------------	----------------------

SV - 11: Lubrication System

Component / Parameter	Specification
Wet Sump	Permitted with internal oil pumps
Dry Sump	Permitted with max three scavenging pump sections
Intake Valley	Must remain as cast, with no oil flow obstructions or modifications

SV - 12: Ignition and RPM Limiting

Component / Parameter	Specification
Distributor	Must remain in factory location
Spark Distribution	Distributor rotor/cap only
Ignition System	MSD Analog or Digital
RPM Monitoring	G2X Data Logger required
Sealing	Internal dial-up RPM limiters will be sealed by IHRA
Accessibility	Wiring harness must be easily inspectable
Dual Ignition Systems	Prohibited
Crank Trigger / Belt Drive	Prohibited
Coils	One (1) ignition coil per engine
Back-Up Systems	Prohibited
Exceeding RPM Limits	Penalty: Last place points and forfeit of Trophies, Flags, Travel Money, and Prize Money

SV - 13: Drives

Component / Parameter	Specification
Approved Drives	Mercury #6 or #8, Arneson, and Arneson style, surface drive
Surface Drives	Permitted

Gear Ratios	1.57:1(Mercury #6/8) 1.56:1(Surface Drive) measured at propeller
-------------	---

SV - 14: Ballast

Component / Parameter	Specification
Solid Ballast	Permitted
Water Ballast	One (1) water ballast tank is permitted if it can be filled and dumped while underway
Inspection Requirement	IHRA official will inspect ballast tank post-race to verify it is fully emptied prior to weigh-in
Labeling	Ballast tanks must be clearly labeled
Transfer Tanks	Prohibited

SV - 15: Air Scoops and Engine Hatch Ventilation

Component / Parameter	Specification
Scoops on Hatches	Engine hatches may include scoops or remain flush
Sealing of Intake Tract	The inlet air tract may not be completely sealed from external opening to flame arrestor
Fresh Air Duct Clearance	Ducting must be at least 2" away from engine or flame arrestor at the nearest point
Engine Bay Pressurization	Sealing or pressurizing the engine compartment is prohibited

SV - 16: Propellers

Component / Parameter	Specification
Approved Manufacturers	Mercury, Hering, Chopper, Rolla
Construction Material	Must be made of cast stainless steel
Thickness Requirement	Must meet or exceed minimum blade thickness requirement
Inspection Requirement	All propellers must pass IHRA inspection for thickness and integrity

Super Vee SSM V1 Propeller Diameter & Inspection Radius			
Diameter	Root Radius	Middle Radius	Tip Radius
15.000"	2.000"	4.250"	6.500"
15.250"	2.000"	4.313"	6.625"
15.500"	2.000"	4.375"	6.750"
15.750"	2.000"	4.438"	6.875"
16.000"	2.000"	4.500"	7.000"
16.250"	2.000"	4.563"	7.125"
16.500"	2.000"	4.625"	7.250"
16.750"	2.000"	4.688"	7.375"
17.000"	2.000"	4.750"	7.500"
17.250"	2.000"	4.813"	7.625"
17.500"	2.000"	4.875"	7.750"
17.750"	2.000"	4.938"	7.875"
18.000"	2.000"	5.000"	8.000"

Blade Thickness Specifications		
Strike Radius	Distance from Leading Edge	Minimum Thickness
2" Radius	1 3/8"	0.283"
4 1/4" to 5"	1 1/4"	0.182"
6 1/2" to 8"	1 11/16"	0.115"

SV - 17: Crew Control and Systems

13.1 Trim System Automation- Programmable, automatic, or computer-controlled trim systems are prohibited. All trim operations must be performed manually by the onboard crew.

13.2 Monitoring Devices and Potentiometers- Potentiometers and other monitoring sensors may be used for data acquisition only. Such devices may not provide automatic control feedback or correction.

13.3 Manual Input Enforcement Rule- All control inputs related to trimming, throttling, steering, or ballast management must be performed manually by onboard crew members. No mechanical, electronic, hydraulic, pneumatic, or software-based system may be connected or interfaced in any manner that introduces autonomous control or influence over vessel performance.

(SS) - Super Stock

Super Stock Specifications

Component / Parameter	Specification
Hull Type	Catamaran
Length	28'0" - 32'0"
Tunnel Width	63"
Post-Race Weight	4,900 lbs.

SS - 01: Cockpit and Ballast Requirements

Component / Parameter	Specification
Cockpit Builder Certification	Cockpits must be constructed using 2022 Lavin rulebook
Cockpit Reinforcement	The reinforced cockpit area must be according to 2022 Lavin rulebook
Canopy Configuration	Single Canopy, with side-by-side cockpit seat configuration
Cockpit Standards Reference	Refer to Lavin Offshore Rulebook, Safety Section 508.03-508.16 (pages 72-76)
Aerodynamic Devices	External wings, airfoils, or movable deck surfaces are not permitted
Ballast	Fixed ballast permitted, transferable ballast is strictly prohibited

SS - 02: Engine Specifications (Twin Engine)

Component / Parameter	Specification
Approved Engines	Mercury 300R
Approved Midsection	OEM 20" or 15" with most recent stock updates from Mercury
Homologation Documentation	Homologation papers must be submitted to IHRA and available upon request
Cowling	OEM or lightweight facsimile of the OEM cowling. Modifications must comply with Mercury homologation #00537

Powerhead	Must remain stock as produced by the manufacturer
Balancing & Blueprinting	Prohibited, including cleaning up, bringing to spec, or altering reciprocating components. No material may be added or removed. Media blasting and bead blasting are also prohibited
Compression Ratio	May not be altered under any circumstance
ECU - Reprogramming	Prohibited
ECU - RPM Limit	6,500 RPM
Flywheel	Unaltered OEM as produced by Mercury Racing
Reeds	Any reed may be used; the stock reed cage must be retained
Lower Unit - Configuration	Stock as produced by Mercury Racing
Lower Unit - Gear Ratio	1.60:1
Lower Unit - Modifications	No alterations of the OEM lower unit are permitted
Lower Unit - Permitted Option	Mercury water pump plate P/N: 8M0168838

SS - 03: Rev Limiter

Component / Parameter	Specification
RPM Limit	6,500 RPM
Data Logging System	G2X Data Logger or AIM System must be installed and actively maintained to monitor engine RPM at all times
Post-Race Verification	RPM data must be verifiable by IHRA event inspectors during post-race inspections
Harness Accessibility	The data logger wiring harness must be readily accessible for inspection
Redundancy	Dual systems or secondary ignition components are strictly prohibited
Compliance Requirement	RPM data from the entire race must be preserved and retrievable by IHRA upon event completion

SS - 04: Propellers

Component / Parameter	Specification
IHRA Approval Requirement	All propellers must be approved by IHRA prior to and after use in any official race capacity
Construction Material	Propellers must be cast stainless steel. Forged or titanium propellers are prohibited
Approved Manufacturers	Mercury, Hydromotive, Dewald, Herring, Chopper. Any other brands must be approved by IHRA

SS - 05: Steering

Component / Parameter	Specification
External Steering	Hydraulic steering is required

SS - 06: Remote Water Pickups

Component / Parameter	Specification
Remote Water Pickups	Prohibited

SS - 07: Water Balance Tube

Component / Parameter	Specification
Balance Tube	A water balance tube between engines is permitted. All plumbing must be external to the hull.

SS - 08: Fuel

Component / Parameter	Specification
Fuel Type	
Prohibited Additives	Octane or oxygen-enhanced additives are strictly prohibited

SS - 09: Tunnel Tabs

Component / Parameter	Specification
Tunnel Tab	May be fixed to the hull. Adjustable tunnel tabs are prohibited

SS - 10: Adjustable Motor Brackets

Component / Parameter	Specification
Jack Plates	Power adjustable equipment is prohibited

SS - 13: Crew Control and Systems

13.1 Trim System Automation- Programmable, automatic, or computer-controlled trim systems are prohibited. All trim operations must be performed manually by the onboard crew.

13.2 Monitoring Devices and Potentiometers- Potentiometers and other monitoring sensors may be used for data acquisition only. Such devices may not provide automatic control feedback or correction.

13.3 Manual Input Enforcement Rule- All control inputs related to trimming, throttling, steering, or ballast management must be performed manually by onboard crew members. No mechanical, electronic, hydraulic, pneumatic, or software-based system may be connected or interfaced in any manner that introduces autonomous control or influence over vessel performance

Extreme

Extreme Class Specifications

Component / Parameter	Specification
Hull Type	Catamaran or Vee Bottom
Length	40' - 52'
Displacement	Any Engine Configuration
Transmission	Must be shiftable including forward, neutral, and reverse
Drives	Any sterndrive or surface drive
Propellers	Any material or manufacturer. But must pass IHRA standards for competition pending approval of the IHRA Chief Inspector.
Top Speed	170 MPH

Bracket Class

Bracket Class Overview

1. The racers must stay in their bracket speed at any time the racecourse is deemed “hot”. If a race boat exceeds the bracketed speed for at least 3.0 seconds consecutively, that team will receive last place points. If at any point in which a race boat exceeds the bracketed speed for an extended/excessive duration of time, the boat may be disqualified and may be forced to move up a class for the remainder of the season. If the race boat runs at an extended/excessive duration of time at the last race of the season, penalties can carry over to the next registered season. The race boat that moves to the next class will not take any accumulated points with the boat to that class nor will they need to pay another equipment registration fee for the remainder of the season.

Examples of extended duration:

- i. Takes the start and never runs under the bracketed speed. i.e.: Boat A takes the start in Class 5 and runs an entire race at 80 MPH or faster.
 - ii. A boat intentionally breakouts in solid 5-minute durations to shamelessly grandstand in a hometown event.
2. Boats shall be a minimum length of 20’, maximum length 55’ (see boat length specifications for the respective classes.)
 3. Class race boats will be identified with only the class numbers as their assigned number.
 4. The class your team will be in is determined by the length, power, propulsion, and hull configuration.
 5. Speeds will be confirmed by an IHRA Official GPS unit. (see section for “OFFICIAL GPS UNITS”)
 6. In the event there is a boat that does not complete the race and a boat that has a breakout in a single race, the boat that does NOT finish the race will place ahead of the breakout boat.
 7. A breakout of speed is classed as a disqualification in the Bracket Classes.

GPS Breakout - A GPS Breakout is when a Bracketed boat goes over their class speed (see *below list*). In ALL Bracket racing classes, there is one major specification you are not permitted to do and that is run over your bracketed class speed. When you do so, it is a disqualification classified as a “Breakout”.

How a GPS Breakout is Determined:

1. A GPS breakout is any speed that goes above the bracketed class speed for a duration of time that exceeds 3.01 seconds.
2. A GPS breakout speed with a duration time that measures 3.0 or less will not be counted as a breakout.

3. When a breakout occurs, the total duration of time will be the measurement of one total break out. Not an accumulation of all breakouts. To break a tie in breakout position, the team with the longer one-time duration will place lower.
4. Sample breakdown of 2 teams with breakout time durations. Boat A with a total of 13.8 seconds will be scored better than Boat B with 16.3 seconds
 - Boat A (Breakout Time duration over 3.0 seconds)
 - 6.7
 - 3.8
 - 3.3
 - 13.8 TOTAL Time of breakout
 - Boat B (Breakout Time duration over 3.0 seconds)
 - 10.1
 - 6.2
 - 16.3 TOTAL time of breakout
5. If there is a tie in which more than one team has the same duration of time for breakouts. The boat that held a breakout for the longest total distance in the race will place latter in scoring. In the event a tie remains, the boat with the single highest speed will place latter in scoring.

GPS Unit Does Not Read

1. If in the event your GPS unit (Vbox Sport) does not read it is considered a disqualification classified as a DNR. With no ability to certify the actuals, the team would receive last place points.
2. In a case in which your GPS unit (Vbox Sport) only reads for a portion of the race, you will receive placement for those completed laps prior to the GPS unit not reading. (i.e.: Boat A completes a race with 8 laps but the GPS only records data for 3 laps, you will be placed in the finishing order for only have completed 3 laps).

Bracket Classes

1. **Competition Class 100:**
 - a. Boats are limited to 115 MPH as a top speed
 - b. No open cockpit boats are allowed to race in Class 100
 - c. Vee & Catamaran hulls permitted
2. **Competition Class 200:**
 - a. Boats are limited to 100 MPH as a top speed.
 - b. Vee & Catamaran hulls permitted
3. **Competition Class 300:**
 - a. Boats are limited to 90 MPH as a top speed
 - b. Single Engine or Twin Engines are permitted
 - c. Open & Canopied hulls are permitted
 - d. Vee & Catamaran hulls permitted
 - e. Bravo Based Sterndrive or Outboards permitted
 - f. Limited to boats up to 40' ft
4. **Competition Class 400:**
 - a. Boats are limited to 85 MPH as a top speed
 - b. Limited to boats up to 35' ft
 - c. Single or Twin Engine | Outboards permitted
 - d. Bravo based sterndrives or Single mercury #3,4,5,6
5. **Competition Class 500:**

- a. Boats are limited to 75 MPH as a top speed
 - b. Limited to boats 30' ft and under with a single engine or twin outboards
 - c. Canopy boats not permitted | Grandfathered boats: 24' One-Design
 - d. Bravo based Outdrive or Twin outboard applications
6. **Competition Class 6:**
- a. Boats are limited to 70 MPH as a top speed
 - b. Limited to boats up to 26' ft in length
 - c. Bravo based outdrive
 - d. Single engine only
 - e. Open cockpit only | Grandfathered boats: 24' One-Design
7. **Competition Class 7:**
- a. Boats are limited to 60 MPH as a top speed
 - b. IHRA reserves the right to inspect all boats competing in the class to determine that it is in a condition worthy of the event
 - c. All registered hulls shall only be "Vee" hull from 20'-22' in length
 - d. Hull shall be equipped w/ a single outboard motor with a max 300 Factory HP
 - e. Mercury 300R V8 permitted
 - f. Boats must have hydraulic steering or dual cable setup
 - g. Class 700 will participate in a course of approximately 25-30 miles
8. **CAT 300:** (see relevant section)

Bracket Class Speeds

1. Bracket class participants are NOT permitted to hold a vote to adjust class bracketed speed at any time. IHRA retains the right to ensure the safest operation possible given the circumstances of the current event.

OFFICIAL GPS UNITS

1. Official IHRA GPS units:
 - Race logic VBOX Sport
2. All teams must bring their GPS unit and SD card to the IHRA GPS Tech Inspector prior to testing or racing for serialization.
3. Racers MUST hand in the SD Card in which the data was recorded by the VBOX Sport. If a card is NOT submitted for reading within a timely matter, they will be disqualified and receive last place points for the event.
4. You are not permitted to run your VBOX unit in multiple races without the correct permission (see rule 5).
5. If your team is competing in multiple races at an event, you must run separate SD cards. Prior to competition the cards must be presented to the IHRA GPS Tech Official.
6. VBOX Sport units are the ONLY GPS units recognized by IHRA
7. VBOX units require a SD Card to have the data recorded on. Below is the required SD file Size:
 - VBOX Sport: 4GB minimum, recommended 8GB
8. You will need to keep your Video VBOX Sport in a waterproof case, out of the sun.

(Contact IHRA GPS Tech Official for recommended waterproof case.)

9. It is the racers responsibility to make sure that the GPS unit is always working properly.
10. It is the racers responsibility to make sure that there is ample room on the SD card to record the data from the GPS.
11. GPS units will not be allowed to be moved from boat to boat. Without express permission from IHRA.
12. All units MUST be serialized with the IHRA GPS Official.
13. You may run a maximum of 2 GPS units on the racecourse. At the end of the race, you must hand in both GPS units to the IHRA Tech. The backup GPS unit will ONLY be read if the Primary unit fails to read properly.

(C300) - Cat 300

Cat 300 Class Specifications

Component / Parameter	Specification
Hull Type	Catamaran
Length	23.0' - 26.0'
Tunnel Width	< 56" at the keel
Top Speed	70 mph
Post - Race Minimum Weight	3,200 lbs. include driver, throttleman, engines, propellers, ballast, and residual fuel. Excludes bilge water.
Cockpit Strength Requirement	5,000N
Minimum Polycarbonate Window Thickness	0.500" (½ inch)
Displacement	Single Mercury 300R or 300XS

C300 - 1: Weight and Identification

Component / Parameter	Specification
Post-Race Weight	Weight must be verified post-race using official IHRA scales, including driver, throttleman, equipment, and residual fuel. Drain plugs must be removed.
Personal Weigh in Alternative	Driver and throttleman may be weighed during physical check-in.
Hull Serial Number	Hull must display a legally engraved serial number as required by law.

C300 - 2: Canopied Cockpit

Component / Parameter	Specification
Construction Standard	Cockpits must be constructed using the 2022 Lavin rulebook
Design Configuration	Must include a single canopy with a side-by-side style seating arrangement. Located on the boat's center line.
Certification Guidelines	Refer to Lavin Offshore Rulebook, Safety sections 508.03-508.16

C300 - 3: Windows

Component / Parameter	Specification
Material Requirement	Windows must be made from minimum .500" polycarbonate
Certification Requirement	Must provide material certification from the polycarbonate supplier

C300 - 4: Steering

Component / Parameter	Specification
External Steering	Hydraulic steering is required

C300 - 5: Remote Water Pickups

Component / Parameter	Specification
Remote Water Pickups	Prohibited

C300 - 6: Tunnel Tabs & Adjustable Brackets

Component / Parameter	Specification
Tunnel Tabs	Fixed tunnel tabs permitted, no power adjustable equipment permitted.
Jack Plates	Power adjustable equipment not permitted

C300 - 7: Fuel

Component / Parameter	Specification
Fuel Type	Only petroleum-based fuels permitted
Additives	Octane and oxygenated additives are strictly prohibited

C300 - 8: Ballast

Component / Parameter	Specification
Fixed Ballast	Permitted
Liquid Ballast	Permitted if nontransferable while in the water
Violations	Will result in immediate disqualification

C300 - 9: Propellers

Component / Parameter	Specification
IHRA Approval	All propellers must be approved by IHRA officials before use.
Construction	Only cast stainless steel is permitted
Forbidden Designs	Forged, titanium, exotic alloys, and CNC-finished propellers are prohibited

C300 - 10: Engine Specifications (Single Engine)

Component / Parameter	Specification
Approved Engine	Mercury 300R with 20" mid-section. Or 300XS with either 20" oem mid or 15" mad efi offshore conversion (3L top to 3L bottom). The exhaust must remain stock, but the muffler may be cut to fit within the 15" center section.
Powerhead	Must remain in OEM configuration
Balancing and Blueprinting	Prohibited
Cowling	May be a lightweight facsimile of the OEM cowling
Cowling Modifications (300R)	Modifications must comply with Mercury Homologation #00537
Lower Unit - Type	Must use Mercury Sportmaster Lower
Lower Unit - Gear Ratio	1.75:1
Lower Unit - Configuration	OEM configuration
Lower Unit - Prohibited Actions	Blueprinting, truing, media blasting, and bead blasting are prohibited
Lower Unit - Permitted Option	Mercury water pump plate (Part #8M0168838)

C300 - Speed Data Acquisition:

Component / Parameter	Specification
GPS Unit	VBOX Sport
Top Speed	70mph

Breakout Definition	> 3.0s over speed
Subject To	All bracket class rules apply to CAT300 as it pertains to speed parameters