



**POWRi IMRA Midget
Specifications**

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1. Axles

- a. Front axles constructed of aluminum or titanium will not be permitted.

2. Brakes

- a. Cars must be equipped with suitable brakes.

3. Bumpers and Nerf Bars

- a. Cars must be equipped with adequate bumpers that are securely fastened to the structural components of the car. No titanium rear bumpers are allowed.

4. Chassis Protrusions

- a. Sharp chassis protrusions (grease fittings, cotter keys, etc.) must not be located in close proximity to the tires.

5. Car Appearance

- a. All cars must pass a technical inspection by the Director of Competition before being allowed to race.
- b. All cars must present a neat appearance to the Promoter and the crowd.
- c. Pit crews must be in a presentable condition.
- d. Each car will be required to have a number prominently painted on the nose and each side of the tail. Duplicate numbers at any track may require the alteration of the number by adding a number or letter to the car.
- e. After a number is assigned to a particular car and owner, it will remain with the owner until the end of the racing season.

6. Car Construction

- i. All cars must be of the open wheel, open cockpit style.
- ii. The engine must be covered with a cowling or hood and secured in place. The hood or cowling need not enclose the sides of the engine.
- iii. The car must have a floorboard or under pan (extending from firewall to the front of the seat) that provides adequate protection to the Driver.
- iv. Radiator catch tanks and under pan diapers may be required if warranted by track conditions. The cockpit opening must be located directly behind the engine compartment.
- v. The use of carbon fiber or other composite material as a structural chassis component, torque tube, or as a suspension component is not allowed.
- vi. No titanium front and rear axles, steering and torsion arms, bumpers, or nerf bars will be allowed.

7. Car Size Limits

- a. The wheelbase must be at least 66 inches, but not more than 76 inches.

8. Design and Construction

- a. All phases of design and construction of any car are subject to the approval of the Technical Committee. The Stewards and Technical Committee may exclude any car, design, or construction which they have deemed dangerous.

9. Engine Size Limits

- a. All engines must be inline, normally aspirated, internal combustion, four-cycle, reciprocating piston type, Incorporating a maximum of four (4) cylinders and a maximum of four (4) valves per cylinder. Engines must be a production engine from a passenger vehicle and reasonably available in the United States.
- b. No engines may be used by passenger vehicles that have not been sold by an officially authorized manufacturer dealership.
- c. All engines are allowed a maximum displacement of 148.820 CID.
- d. All engines must use an OEM block, OEM cylinder head, and OEM crankshaft combination from the same manufacturer.
- e. Lightening the engine block or cylinder head is limited to removing material for the purpose of fitting the engine into the chassis. Removal or addition of material to improve oiling or cooling will be permitted.
- f. Lightening of the crankshaft, beyond minimal material removal for balancing, is PROHIBITED. Offset grinding of the crankshaft journals is PROHIBITED. Gears may be removed.
- g. Titanium and aluminum connecting rods are PROHIBITED
- h. Titanium valves and valve springs are PROHIBITED.
- i. Cylinder head ports MUST remain stock as cast. No alterations from original OEM specifications are allowed.
- j. Operational variable valve timing (VVT) is PROHIBITED.

10. Exhaust

- a. Exhaust systems must be designed to create a minimum fire hazard and a minimum hazard to other competitors. Cars having exhaust pipes passing the cockpit near the Driver must have raised metal pipes adjacent to the cockpit to afford protection to the Drivers and Mechanics.

11. Firewall

- a. An effective firewall of metal or approved fire-retardant material must be installed between the engine compartment and the cockpit. It must be as leak proof as possible.

12. Fuel System

- a. Fuel tanks must be constructed and supported in a manner that will ensure every possible precaution has been taken to avoid rupture or breakage.
- b. Fuel tanks should not be altered by cutting out the bottom of lower tanks. Carbon fiber fuel tanks will not be allowed.
- c. Each car should be equipped with an approved bladder fuel tank.
- d. Fuel tanks must be within the body's contour.
- e. A flush-type cap or a device approved by the Technical Committee is required on all exposed fuel caps.
- f. The fuel tank must have a check valve.

- g. Fuel systems must be equipped with a shut-off device located within easy reach of the Driver.
- h. Fuel is restricted to methanol or ethanol.
- i. All fuels are subject to testing at any time and any deviation or violation of these specifications will result in immediate disqualification.

13. Ignition

- a. Kill switch must work and be within easy reach to the Driver.

14. Inspection

- a. An inspection shall be performed by a member of the POWRi Technical Committee at any event during the season.

15. Miscellaneous

- a. The use of in-car radio transmitting devices is prohibited.
- b. Only one-way communication from POWRi Race Control will be allowed and is mandatory.
 - i. Channel #1 Frequency: 464.5500
- c. The use of electronic logic processor to control any function of the race car is prohibited. (Note: This rule does not include electronic ignition and/or electronic tachometers).
- d. MyChron data loggers have been deemed legal for gathering continuous data for the purpose of engine tuning performance but are limited to RPM, Pressure, Temperature, Voltage, O2 Sensors, and GPS. MyChron is one way communication only.
- e. No Can ports, wheel/axle speed sensors or any other logic processing sensors will be allowed.
- f. All data loggers are subject to inspection by the race director. Any other data collection system can utilize only one way communication and must have PRIOR approval by the race director. No switching devices are allowed in the cockpit area for the use of changing ECU programming and will be subject to inspection.

16. Mufflers

- a. No carbon fiber mufflers will be allowed. Mufflers will only be mandatory at tracks that require them. Be prepared.

17. Rear Bumpers

- a. The car must be equipped with a rear bumper, which is securely fastened to the structural components of the car.

18. Roll Cage

- a. All cars must be equipped with a roll cage that cannot encroach upon the imaginary cylinder extending upward from the cockpit opening. The roll cage must be secured and attached to a strong component of the car and adequately braced fore and aft to secure in an upright position. The roll cage should extend 2" above the top of the Driver's helmet when the Driver is sitting in an upright

position. It is recommended that on all new cars, the roll cage should extend 4" above the top of the Driver's helmet. The normal height is 36" measured on a line equivalent to the Driver's spine when seated in the car. All cars constructed after January 1, 1997, should have roll cages and uprights constructed of 4130 1-3/8" 0.095 minimum specifications. All roll bars and/or cages must be designed to permit the lifting of the car in case of an accident. SFI roll cage padding is highly recommended.

19. Seats

- a. No fiberglass, carbon fiber, or plastic seats will be allowed. A minimum of 4 mounts will be used (5/16 bolts with 2" washers). All seats must be of high back style.

20. Seat Belts

- a. The use of an approved seat belt with a quick opening clasp is mandatory. Both the fastening design and condition of the belt are subject to inspection by the Technical Committee. Seat belts in use shall not exceed 2 years of age. Each belt must be the standard 3" minimum and include a submarine belt of suitable size.

21. Starters / Clutch

- a. Clutch must be rendered inoperative but can be left on the car.

22. Steering Mechanism

- a. The steering mechanism should be in accordance with sound engineering principles and subject to inspection. A quick release type steering wheel is required. No pin type quick release or plastic quick release will be allowed.
- b. All highly stressed steering parts must be made of SAE 4130 steel or an alloy, specified by the manufacturer of the alloy as equivalent in physical properties. All such parts must be heat treated (including stress relieving, normalizing, annealing, and hardening when applicable) after forming and/or welding as recommended by the manufacturer of the alloy being used.
- c. Parts may not be joined by brazing, soldering, or by dissimilar metals.
- d. All steering parts that are electroplated should be oven-baked at a temperature of 375 degrees Fahrenheit, plus or minus 25 degrees, for a period of not less than 3 hours after plating.
- e. Shot pining is recommended for all highly stressed parts. Authorized facilities should be used.
- f. Air foils, wings, spoilers, or other aerodynamic appendages will not be permitted. The Director of Competition may have any panel or part removed, which is his/her opinion is not within the spirit or intent of this rule.

23. Tires and Wheels

- a. Hoosier tires are required on all four corners; the right rear must be an SP 3. Left rear must be a D-12 or harder.

- b. Tire measurement: Maximum tire measurement will be 12 inches, measured from outside wall to outside wall except for the right rear tire, which will have a maximum measurement of 14 inches measured from outside wall to outside wall.
- c. Wheels: The rim diameter must be 13 inches. The rim width shall not exceed 8 inches except for the right rear, which may be a maximum of 10 inches.
- d. All balancing lugs must be securely fastened.
- e. Rim locks are recommended only if the legal wheel width is maintained.
- f. Bead locks are legal.
- g. Tire Prep
 - i. The altering of any tire compound, by any means will not be permitted. Chemical alteration of the tread carcass and/or tread compound, such as tire 'soaking' and/or the introduction of tread 'softener' and/or physical defacement (removal, altering and/or covering) of tire sidewall markings in any manner will not be permitted. If any competitor is found to have altered their tires any penalty deemed appropriate by POWRi Series Officials may be issued.
 - ii. Any tire may be inspected and/or analyzed for alteration at any time. This will consist of a process as determined by the independent laboratory that performs the analysis. The analysis process will require a sample shipment of the tire to the selected laboratory.
 - iii. Additional race event(s) may be completed before a determination is made. If a penalty is issued, the event(s) that fell into the analysis time period while the tire(s) were being analyzed will be considered as part of the penalty time period.
 - iv. Money won in an event may be held until the final determination is made by the independent laboratory.

24. Water / Oil Coolers

- a. No water or oil coolers are to be placed above or beside the cockpit opening.

25. Weight

- a. All cars will weigh a minimum of 1100 pounds; including water, oil, fuel and the driver. Cars may be weighed prior to and/or following any event. Cars weighed at the completion of an event may not add fuel or ballast to satisfy the minimum weight requirement.

26. Addendum for Chain Drive Cars

- a. All chain-driven cars must weigh a minimum of 950 lbs., including the driver, and run on ALCOHOL.
- b. All production motorcycle engines must use the original manufacturer's OEM 1003cc. engine crankcase, cylinder jugs and/or engine block, OEM cylinder head, and OEM crankshaft. Crankcase, cylinder jugs and/or engine blocks, cylinder heads, and crankshafts must be from the same manufacturer.
- c. Cylinder head ports must remain stock as cast. Porting the cylinder head including intake matching is NOT permitted. Machining, grinding, sanding, etching of any kind of the intake or exhaust ports is STRICTLY PROHIBITED. No altering of the shape and/or size of the intake or exhaust ports from the original manufacturer specifications.
- d. Lightening the engine block or cylinder head is limited to removing material for the express purpose of fitting the engine into the chassis.
- e. Lightening of the crankshaft beyond minimal material removal for balancing is NOT permitted.
- f. Welding on the cylinder head beneath the valve cover or inside the ports is NOT permitted.
- g. No titanium connecting rods allowed.
- h. The transmission must be in stock configuration. The engine must be able to be turned over in and shifted through all gears. All production motorcycle engines must have a clutch in place, and it must be operational. The clutch basket and clutch spring tension can be changed
- i. Variable valve timing is NOT permitted.
- j. Ignition Systems must be one of the following ignition/ECU systems Stock OEM (flashing allowed), Dynojet Power Commander, Odum Specialties IG, or Dyna 2000.
- k. Cars utilizing a chain-driven rear axle must have the engine sit directly in front of the driver. The engine may be offset to a maximum of six (6) inches as measured from the center of the engine to the center of the chassis.
- l. Chains must be located within the frame rails. Chain guards must be designed in a manner to completely shield and protect the driver and fuel tank from the chain. The chain guard must be made out of stainless, mild steel, or aluminum.
- m. Chain guards must extend from the firewall to the rear of the sprocket on top and from the top of the chain to the floor pan. The guard must also extend from the firewall to the back of the seat on the side of the driver. Chain guards must be designed to not allow chains to damage or puncture the fuel tank in the event they become loose from the sprocket or engine.
- n. Main uprights forming the roll cage must be a minimum of 1 3/8 inches O.D. x.095 wall thickness 4130 normalized tubing.

- o. A conventional tail tank, fuel cell, and fuel containment must be carried on the centerline of the chassis and be located behind the driver. All cars must be equipped with a fuel tank meeting SFI Specification 28.2.
- p. If there is any question on a rule, the Midget rule book will take precedence, i.e. wheels, overall width, fuel.