Rules and Race Regulations

2024 Season

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1. KART CONSTRUCTION

To participate in this racing series, and collect points (race, series, moxie), your team members and kart must be registered as per Appendix A.

1.1. KART BODY

- Each kart shall have a body that consists of one of the following:
  - A children's ride-on toy or a recognizable portion thereof
  - Something that looks like it could conceivably be or have been a children's ride-on toy or a recognizable portion thereof
- Each kart must have a body at the start of each race.
  - If a kart's body falls apart during a race and cannot be repaired the kart may continue that race IF no required safety systems (which includes bumpers and proper driver protections.) are affected by the body's absence.

1.2. DRIVERS

Each kart shall be controlled only by one human driver seated in or on the kart.

1.3. KART EGRESS

Each kart shall be constructed such that an uninjured driver can exit the kart unassisted in 5 seconds or less.

1.4. KART SIZE

- Each kart shall not be longer than 62"
- Each kart shall not be wider than 36"
- Each kart, including the driver seated and dressed per the rules, shall not be taller than 72".

1.5. WHEELS AND TIRES

- Except for treaded tanks and walking/shuffling karts, each kart must have a minimum of three wheels that support the weight of the kart.

- Any wheel driven by a motor shall not be allowed to swivel like a caster wheel. Exceptions considered upon a 1 month notice to the Sanctioning Body prior to event.
- The minimum wheel track (wheel-to-wheel width) allowed is 12”.
- The minimum wheelbase (axle-to-axle length) allowed is 18”.
- Each wheel that supports the weight of the kart must have a tire mounted to it.
- Except for treaded tanks and walking/shuffling karts, all forces to drive the kart during the race must be transmitted through one or more tires.
- If wheels and tires meet budget requirements, any type of tread pattern, or lack thereof, is allowed.

1.6. STEERING

No kart may be steered by remote control or by anyone besides the driver(s) onboard at any time.

Axels or other metallic parts of your steering system should not extend past your wheel and tire by more than 1”. Event Organizers reserve the right to correct the kart at their own discretion during technical inspection.

1.7. MOTOR PROPULSION

- Each kart shall be propelled only by one or more electric motors.
- Each motor must have a maximum RMS input voltage not greater than the fused battery voltage.
    - No DC-DC conversion allowed (i.e., boosting your 48v battery to 200v)

1.8. **BATTERY**

Each kart shall have at least one battery with a nominal voltage less than or equal to 48V that supplies traction current to the controller and motor. No batteries with a nominal voltage over 50V are allowed (charging/fully charged voltages may be higher and vary depending on chemistry).

Each battery in the kart shall be of one of the following chemistries:

- SLA: Sealed Lead-Acid
- AGM: Absorbed Glass Mat Lead-Acid
- Ni-Cd: Nickel-Cadmium
- Ni-MH: Nickel-Metal Hydride
- LiFePO4: Lithium Iron Phosphate
- LiPo/Li-lon Lithium Polymer/Ion*
- If using a battery technology not listed above, ensure local sanctioning body knows and approves of your battery and charging methods before the race weekend.
- Capacitor banks (100,000uF or more of parallel capacitance) are not considered batteries and are not allowed. No switched capacitor system whose purpose is to supplement the battery power or capture braking energy is permitted. Advanced power storage systems can be considered by the Sanctioning Body with prior notice. They also can be vetoed by other teams under safety premises.

		Number of Cells in series and Fuse Ratings					
Battery Chemistry	**Nominal Cell Voltage**	**12V / 125A**	**18V / 80A**	**24V / 60A**	**28.8V / 50A**	**36V / 40A**	**48V / 30A**
Li-Ion / LiPo*	3.7	3	5	6	8	10	13
LiFePO4*	3.2	4	6	7	9	11**	15**
Ni-MH / Ni-Cd	1.2	10	15	20	24	30	40
SLA / AGM	2	6	9	12	14	18	24

***WARNING:** Teams running **any** lithium chemistry will need to demonstrate safe handling and charging procedures, and have batteries stored safety in a durable metal container on the vehicle. (EV batteries that are already in a metal enclosure do not require an additional containment). The sanctioning body must approve each kart's implementation of Lithium batteries. Failure to implement safe Lithium based battery handling procedures will result in being removed from the race.

** If using a commercially available, off the shelf, assembled pack of LiFePO4 battery chemistry, 12s for 36v and 16s for 48v is acceptable. The pack must have a manufacturer/OEM supplied, integrated BMS for the entire pack. Otherwise, the numbers on the table above should be used as series cell count maximums.

1.9. CONTROLLER

Each kart shall have a throttle-controlled motor controller to transfer power from the battery or batteries to the motor(s).

Spark plates are banned.

1.10. TRANSPONDER

Each kart must have a PRS-supplied *or approved* transponder affixed to it for timing and scoring purposes.

- Transponders must face upward and have a clear line-of—sight.
- Transponders borrowed from the PRS event must be returned to race officials at the end of each race weekend.
- PRS yearly car registration fee includes the cost of a transponder kit that teams may keep year over year.
    - The kit comes as a box of parts and must be assembled and programmed.
- Transponders can be purchased and installed permanently on your kart but must be approved by race officials in advance of participation.
    - Compatible transponders can be purchased from http://www.rclapcounter.com/
    - Other transponders may work with the I-Lap timing system but must be verified in advance of a race.

1.11. NUMBERING

Each kart shall have a unique number somewhere on its body. The number shall be 1-5 digits long and the lettering shall be at least 1.5” tall.

1.12. MOXIE LABEL

See Section 6.2.3 about Moxie Points for more information.

1.13. REQUIRED SAFETY SYSTEMS

The following features of your kart are required for safety purposes, and the implementation costs of these systems do not count toward your $500 budget

1.13.1. BUMPERS

Bumpers are required safety systems

- Each kart shall have bumper-like structures in the front and rear of the kart
- Each bumper must cover most of the width of the kart
- Each bumper must cover at least 2” of height within the vertical space 4-6” from the ground
- Each bumper shall be constructed from a wooden 2x4 or similar strength HDPE / UHMW plastic.
- Exceptions to the wood or plastic of the bumpers will be considered by the Sanctioning Body with prior notice.
- Cosmetic coverings of bumpers are allowed, if the covering does not render the bumper more dangerous or inoperable.
- Each bumper shall not protect any wheels of the kart from side contact
- Kart must be able to be lifted by the bumpers
- No exposed sharp (especially metal) ends on bumpers. This includes sharp cut plywood or plastic sheeting. Put in some effort.

1.13.2. DRIVER PROTECTION

The kart must extend beyond the driver in every direction when viewed from directly above. This protection shall be sufficient to prevent direct contact between the driver and other kart/barriers during an impact from any direction. This protection especially applies to feet and knees, which may not dangle off the kart. Occupants may not use the bumpers as a footrest.

In the event of impact, drivers should not be the first point of contact with any outside intrusion of any other vehicle.

1.13.3. **BRAKES**

Brakes are required safety systems.

- Mechanical brakes must be capable of stopping the kart in full per Rule 4.1.1.2.
- Brakes that apply braking force directly to the tire of a kart are not allowed to be the sole source of mechanical braking
- Brakes that apply braking force to the ground are not allowed
- Kart must rapidly come to a halt if the throttle and brake are both fully activated
- If brakes are not on the driven wheel(s), then motor power must be cut, via controller or other means, during braking
- Balancing manifolds are recommended if more than one brake element is being used.

1.13.1. **BATTERY RETENTION**

Battery Retention is a required safety system.

- Battery must be secured so that it remains in its position relative to the rest of the kart during normal operation and during a tip or rollover.
- Battery must be secured with the appropriate amount of compression so that it may operate safely. The amount of compression you will need will depend on your battery chemistry. Special attention must be given to lithium battery chemistries.

1.13.2. **BATTERY DISCONNECT**

The battery disconnect is a required safety system.

- The switch actuator must be Red in color
- The switch **MUST** be a button, at least 1.5” in diameter (larger is better!). Other similar shapes are allowed, but must conform to the dimension above in their shortest measurement.
- The switch **MUST** turn off power when pressed in, and latch in the off position on its own without additional holding apparatus.
- A mechanical release (twist, pull, or some other manual release) is required on the button to restore the power to the system.
- The disconnect switch MUST either:
    - Directly disconnect all battery power from the vehicle
    - Directly switch coil power to a normally open contactor that removes all battery power from the vehicle (see below)
- Must be connected to the POSITIVE voltage terminal of the battery.
- Contactors used as battery disconnects are allowed, provided
    - It is NOT a simple relay
    - Contactor system must be normally open, and fail open
    - Contactor system must be rated for the voltage and current of the kart’s nominal electrical system and NO LESS than the fuse rating of the kart.
- The battery disconnect may not be your throttle
- The battery disconnect or contactor **MUST** be rated for DC voltage at your nominal voltage level, and rated for the current of your fuse, at minimum.
- The battery disconnect should not disable any safety systems

Battery disconnect Suggested Part(s)

MFR	Part	Price (est)
Longacre	LON-5245749	$39.99

Contactor Button Suggested Part(s)

MFR	Part	Price (est)
Fuji Electric	AR22VQL-01E3R	$35.00

1.13.3. FUSE

The fuse is a required safety system

- Each kart must have one PRS-regulation fuse in series with the battery or batteries such that all current coming from the battery or batteries passes through the fuse before reaching any active electrical component that makes the kart go or go faster.
- It is recommended that the Fuse be located physically as close to the battery or batteries as possible.
- Each kart may not have PRS-regulation fuses stored on the kart or driver beyond the one required to be in the circuit.
- PRS-regulation fuses may not be actively cooled.
    - 'Active Cooling' is defined as cooling where energy (electrical, chemical, gravitational, dark, nuclear, thermal, temporal, etc.) is expended to obtain some reduction in the temperature or rate of temperature rise of the fuse element.

- Should you blow a fuse on race day, the timing and scoring booth, Grim, or other race officials will be the only allowed source of replacement PRS-regulation fuses. Actual physical location of the fuses may vary between races and will be determined by race officials for each event.
- Race Officials reserve the right to swap out any fuses for any team at any time
- Teams *must* replace fuses in pits or designated area once obtained from the designated person or area
- The PRS-regulation fuse that each kart is required to run varies based on the kart's nominal battery output voltage, must be unmodified from its purchase condition, and must be installed in such a way that:
    - The voltage at the fuse and the voltage at the batteries must be equal
    - All current moving to the motor controller must pass through the fuse before passing to the motor controller
    - You really shouldn't have anything in between the fuse and the batteries
    - Any regen protection diodes should be tested and demonstrated to the race officials during Tech Inspection

The fuse ratings for different nominal classes of battery systems are listed below:

VOLTAGE	FUSE RATING	FUSE PART NUMBER
48	30A	(Digikey #F7139-ND) BF1 Series
36	40A	(Digikey #F3089-ND) MIDI Series (Digikey #F6792-ND) BF1 Series
28.8	50A	(Digikey #F3090-ND) MIDI Series (Digikey #F6793-ND) BF1 Series
24	60A	(Digikey #F3091-ND) MIDI Series (Digikey #F10818-ND) BF1 Series
18	80A	(Digikey #F3092-ND) MIDI Series (Digikey #F10820-ND) BF1 Series
12	125A	(Digikey #F1879-ND) MIDI Series (Digikey #F7140-ND) BF1 Series

For additional information on "nominal" battery voltage and cell count, see table under section **1.8 Battery**.

- Any kart which makes use of walking mechanisms instead of wheels for propulsion can use a fuse with a current limit one rating higher than the standard PRS-regulation fuse for that kart's battery voltage.
- If the race is an off-road, rally-style race, 2x of the standard fuse limit may be considered by the local race officials. Please check with the organizers of your particular event **before** the event.
- If your nominal voltage is between ratings, you must use whichever current limit is lesser.
- Self-built battery packs must include a breaker or fuse inside the battery pack to interrupt the voltage on the battery leads. A full-authority BMS will be allowed in-place of the fused output leads. If you have questions, please ask your local EO.
    - This rule includes battery packs made out of commercial or automotive packs, such as Nissan Leaf cells, Chevy Volt packs, Ford C-Max, etc.
    - If you short your battery terminals, your battery should not catch fire. Don’t test this.

1.13.4. LOW VOLTAGE ALARM

A system that emits a sound, light, or other alarm to alert the drive of the kart that the batteries are approaching a dangerous low voltage threshold is required on all karts that are running non-lead-acid batteries.

- This system must monitor the batteries at the individual cell level, and not just at the full pack nominal voltage level.
- One kind of this system can be had from Amazon for ~$2 per 6s, for example:
  - https://www.amazon.com/CAMWAY-Battery-Voltage-Monitor-Checker/dp/B07DC3LH9C
- All Non-SLA / AGM packs **MUST** be charged with a system that monitors and balances individual cell voltage (either as a function of the charger, or a battery management system incorporated into the battery pack)

1.13.5. LIFT POINTS

Each Kart must have lift points clearly marked if the lift points are not your visible bumpers. Expect that you kart will be lifted by two persons.

If your kart is too heavy to be lifted by two persons, clearly indicate your kart "**HEAVY - DO NOT LIFT"**

Please no sharp points near lift points.

Drive train components must be protected in places where hands may grab the kart during a lift operation.

1.13.6. TUBE CAPS

Each Kart shall not have any exposed tube cross-sections. Any cross-sections which are not closed off by other means must be covered by tubing caps or covers for handlebars.

Suggested construction materials are machined or 3D printed plastic, oversized rubber stoppers, bicycle handlebar end caps, or readily available commercial tube caps found on popular hardware supply websites.

1.13.7. WIRING

Properly sized wires and connectors are a required safety system and do not count toward the budget cap.

1.14. OPTIONAL SAFETY SYSTEMS

The following features of your kart are optional safety features. They are not required, but the implementation costs of these systems do not count toward your budget cap

1.14.1. LIGHTS

Lights are optional safety systems for daytime races. Front and rear lights are required safety systems for nighttime races.

1.14.2. REVERSE

A reversing system is an optional safety system. It is strongly recommended that you implement a method to put your kart into reverse operation without exiting the vehicle.

1.14.3. HORN

A horn (or similar noise-producing device) is an optional safety system for daytime races.

1.15. **BUDGET**

Each kart has an allowable budget capped at $500 in 2009 USD (The year the series began).

The 2023+ season budget for each kart is <u>$600</u>, when adjusted for inflation.

Use the following table as a quick start guide example to determine how to count various items in your budget.

Full Price / Fair Market Value	Free
• Motor, (A junkyard alternator as a motor counts $10 on BOM, new alternator is as purchased priced) • Batteries (Priced as indicated in this document) • Motor Controller • Transmission • Sprockets • Chain • Belts • Pulleys • Gears • Frame • Bumper substructure • Wheels • Tires • Tubes • Axles • Hubs • Bearings/bushings • Steering Shaft/Arm • Tie-Rods • Spindles • Steering Wheel • Seat • Sensors (current, fuse/motor temp, steering, speed, etc.) • Performance enhancing Moxie • Active cooling for motors or controller	• Sealed Lead Acid Batteries • Brakes • Physical Throttle linkage • Battery Disconnect Switch • Lights • Horns • Transponder • Non-performance enhancing Moxie (Paint, Bondo, etc.) • The plastic bits from an actual Power Wheels toy • Chargers • Spare parts not in kart during race • Battery box or strap (thing that permanently around it) • Battery BMS (in-kart alarm) • Power distribution • Ketchup; Mustard • Glitter • Wires, connectors etc. • The Rick Dance • Avocados

1.15.1. BILL OF MATERIALS (BOM)

Each kart *must* have a BOM submitted to race officials for points accrual on race day. The BOM for any kart must be submitted at the time of that kart's tech inspection for the race weekend. A standardized BOM template will be provided by the sanctioning body.

The minimum items to be included in the BOM are:

- Motor(s)
- Motor Controller(s)
- Wheels
- Tires
- Batteries
- Other drive train components
- Other items which increase your race performance
- Items listed in table above under **1.15 Budget**

1.15.2. EXCLUDED ITEMS

The following items are excluded from the budget:

- All items whose primary purpose is for a safety system
- Physical throttle components and linkage
- Transponder
- Original ride-on toy price
    - A ride-on kart or ATV with a real metal chassis does not count as free. Ride on toy plastic body panels are what is intended to be "free" under this rule.
- Shipping costs, taxes, and customs fees for parts/hardware/materials.

1.15.3. BATTERY PRICING

Batteries are priced per watt-hour on the BOM. Any battery chemistry on the current list (see 1.8 Battery) is allowed, from any source, at any pricing. This is to encourage teams to safely acquire batteries designed for the application at hand.

- Current Battery Pricing is set at $0.06 / watt hour
- Watt hours are calculated as follows
    - Battery Capacity (Amp Hour (Ah)) x Nominal Cell Voltage (i.e., LiPo = 3.8V/Cell)
- SLA / AGM Batteries are considered free on the BOM

Any vehicle running batteries under the previous ½ FMV rule from prior years that would be overbudget under this rule are grandfathered in. If the kart or batteries from the kart change hands, they must be calculated using the new method.

1.15.4. BUDGET ENFORCEMENT AND PENALTIES

If PRS officials or the majority of teams believe a team has greatly exceed the budget cap, the offending team will be deemed suspect and are at risk of a PRS buyout. PRS officials comprising of our team-submitted volunteers and event organizers will determine if teams have exceeded the budget and hold all rights to purchase a team's kart for the season's budget cap amount. By entering an event, a team consents that their kart could potentially be bought out at the end of the event for the value of the season's kart budget cap amount. A team may redeem their kart and re-enter in the next event if they agree to remove the suspected over-budget component(s).

If the panel of officials determine the kart to infringe on certain rules or bend said rules to a position that is beyond "the spirit of the series," then a completely arbitrary, painful, and time-consuming penalty will be administered. If enough referrals are given by other teams for "breaking budget" and the Race Official agrees, the sanctioning body has complete freedom to severely limit the kart's performance, administer embarrassing penalties, or outright strip points to satisfy the masses. This penalty will most likely be made up on the spot, will cost the offending team considerable ire and outrage and lifting this penalty will require considerable bribery (i.e., donations to the series).

1.15.5. FAIR MARKET VALUE

Each component of the kart must be totaled in the budget according to the components' Fair Market Value. Fair Market Value is the cost someone could reasonably expect to pay for that item in similar condition elsewhere without a relationship to the seller/donor.

The Fair Market Value of a used part worth $100 new and $25 used, that you got for $10 because your buddy owns a shop is $25. The Fair Market Value of a used part worth $100 new and $25 used, that your hackerspace got for free is $25. The Fair Market Value of a part bought on eBay (etc.) from a seller who is not giving you preferential treatment is whatever you got it for, since anybody could have bought that part.

- Donated parts are not free and must be counted as their Fair Market Value.
- Dumpster parts are not free and must be counted as their Fair Market Value
- Karts that use shuffling and/or walking mechanisms for movement will be given a 500% increase in budget.
- This budget covers only items that are a part of the kart as it sits on the grid of any race, and does not include the cost of spare parts or development costs (except where those development costs are also part of the price of kart components as it sits on the grid)

1.16. KART DECORATIONS AND MODIFICATIONS

Teams are encouraged to decorate and modify their karts in imaginative ways if the decorations and/or modifications do not present a risk of danger or injury to other participants or spectators above and beyond the risks and dangers inherent to the sport.

Vehicular weaponry is banned.

The sanctioning body reserves the right to examine your kart and prevent your kart from competing if they feel it poses a danger to you, the other competitors, or the spectators.

1.17. TEAM SECRETS

To avoid the issue of race-day disqualifications, please contact the Sanctioning Body in advance to inquire if your modifications are legal.

Modifications that are “team secrets” will be kept in confidence and will not be shared with other teams.

2. DRIVER RULES

2.1. GENERAL DRIVER RULES

- Drivers must have a valid driver's license and be at least 16 years of age.
- Drivers under 18 years of age must also have a signed release from a parent or guardian.

2.2. HELMETS

- Drivers shall wear an approved helmet whenever they are on track to race or to practice. Helmets shall be subject to inspection and approval by race officials.
- An approved helmet shall be a 3/4: or full-face motorcycle, motocross, or automotive racing helmet that meets or exceeds DOT, SNELL, or ECE standards.
- Drivers who wear helmets that do not cover the eyes are required to wear DOT approved eye protection.

2.3. OTHER ATTIRE

- Every driver is **REQUIRED** to wear closed-toe shoes.
- It is **HIGHLY** recommended that everyone on the track (driver, pit crew, marshals) wear abrasion-resistant gloves and full-body clothing including long pants and a long shirt.
- Members of the pits are highly encouraged to always wear safety glasses.

2.4. PRACTICE LAPS

All Drivers are required to drive multiple practice laps of the course before they drive during a race. These laps may be made during qualifying, moxie round, or free practice, and are preferably made in the vehicle driven in the race. However, they may be made in any PRS-Legal vehicle. Any driver with 0 practice laps **IS NOT ALLOWED** to drive in any race. The pre-race formation lap does not count.

3. TEAM RULES

3.1. TEAM STRUCTURE

3.1.1. DRIVERS/PARTICIPANTS

- Organizations may enter as many teams as they wish.
- Teams must consist of at least one member more than the number of karts the team will run.

3.1.2. KART ENTRIES

- Teams may submit any number of kart entries to a race.
- If the race is hosted at a Maker Faire event, it is recommended (and sometimes required) that each kart be registered separately for the event as a maker. If a team is bringing a large number of karts, please contact the Maker Faire event's organization committee beforehand to ensure space.

3.2. TEAM VOLUNTEER

Volunteers from the teams are essential to race-day activities running smoothly.

Teams are required to submit at least one team member, for every two karts on a team as a volunteer for the weekend.

Examples:

- 1 Kart = 1 volunteer
- 2 Karts = 1 volunteers
- 3 Karts = 2 volunteers
- (Team Volunteers = roundup(cars/2)

This member can rotate duties with other team members and track volunteers throughout the weekend, as long as a volunteer is always available.

IMPORTANT NOTE: IF YOU FAIL TO PRODUCE ENOUGH TEAM VOLUNTEERS FOR THE ENTIRETY OF THE WEEKEND, YOUR TEAM WILL NOT ACCRUE MOXIE POINTS DURING THE EVENT. (THIS WILL ESSENTIALLY KNOCK YOU OUT OF RACE-WEEKEND MEDALS, AND SEASON POINT STANDINGS FOR THE RACE)

Failure for enough volunteers to be present to run every event during a race weekend will cause the race weekend to not count officially for total wins or championship points, at the Sanctioning Body's discretion.

The volunteer's duties include:

- Track setup
- Race-day operations
- Flag/course marshalling

If you are worried about your ability to have a volunteer present for the race weekend, reach out to the sanctioning body to find other teams that are attending, and coordinate with a team that would like to be able to bring additional volunteers

3.3. **TEAM SPONSORSHIP**

- Team sponsorships are allowed, and the terms of individual sponsorships are at each team's discretion
- Team Sponsors do not become affiliated with the sanctioning body, other participating teams, sponsors, host organizations, Maker Faire, or Make Magazine by virtue of sponsoring a team in the PRS.
- Teams may not represent to sponsors or potential sponsors that sponsoring a team in the PRS will associate the sponsoring entity with any of these organizations, including Power Racing Series, LLC
- Sponsors may sponsor the PRS in addition to specific team sponsorships

4. GENERAL EVENT RULES

4.1. EVENT STRUCTURE

The General structure of a race weekend includes at minimum 6 events in the following order:

- Day 1:
  - Tech Inspection
  - Qualifying
  - Sprint 1
  - Sprint 2
  - Sprint 3 / Relay Race (Decided by Event Organizers)
- Day 2:
  - Sprint 4
  - Endurance Race

4.1.1. QUALIFYING ROUND

If the number of entries to an event exceeds 24, the race organizers may modify or add to these qualifying rules as they see fit to reduce the number of race entries to 24.

- Qualifying consists of two laps of the track plus a brake test.
- Karts that have yet to qualify will line up single-file in pit row.
- Race organizers will call on karts one at a time to perform their qualifying laps and brake test.
- Qualifying determines the position of the car on the starting grid. Cars are ordered in descending lap time from the start/finish line.

4.1.1.1. QUALIFYING LAPS / HOT LAP

To start qualifying, you will take your kart on a warm-up lap of the track. This warm-up lap allows the organizers to verify that your kart's transponder is working.

Once you cross the Start/Finish line at the end of the warm-up lap, your kart's qualifying lap has begun.

Provided your kart passes the brake test, the recorded qualifying time is the time of the hot lap.

If you are not satisfied with your kart's qualifying time, you may line up at the end of pit row and attempt to re-qualify if there is time.

4.1.1.2. BRAKE TEST

At the end of the hot lap, your kart will have to come to a complete stop within 18ft of when its transponder crossed the start/finish line.

- Deliberately skidding, swerving, or spinning out is not an acceptable method of braking for the brake test.
- Impacting the barriers is not an acceptable method of braking for the brake test.
- If you fail the brake test, you may line up at the end of pit row and attempt to re-qualify if there is time.
- Karts that do not pass the brake test are not allowed to race.

4.2. RACE TYPES

4.2.1. SPRINT RACE

Sprint races have an approximate duration of 15 minutes. The set number of laps in this race will change per event based on qualifying times and track length.

Karts will start this race in their qualifying order.

The race ends when all karts cross the start/finish line after the first kart to reach the target number of laps crosses the start/finish line.

4.2.2. RELAY RACE

Karts will be grouped into an arbitrary number of small groups of arbitrary size by the Sanctioning Body at their discretion. Expect that fast karts will be grouped with slow karts.

Drivers will determine amongst themselves what order they will race in.

The starting driver will run a predetermined number of laps around the course, as decided by the Sanctioning Body, with the Relay baton. During their approach from the exit of pit lane to the truss, the next kart in line will exit pit lane and get up to speed. The first kart will hand off the baton to the next kart around the truss, and the second kart will begin their number of laps, while the first kart exits the course at the entrance to pit lane. Repeat for all the following karts.

4.2.3. OPTIONAL NIGHT RACE

Venue permitting, Saturday night will close with a night-time race, to start after the sun goes down. All the “optional for daytime race, mandatory for nighttime race” safety items are mandatory to participate in this for-moxie-point-only event.

Karts will start this race in their qualifying order.

4.2.4. 75-MINUTE ENDURANCE RACE

The final race of the weekend will be an endurance race with a duration of

- 75 minutes, regardless of lap count.
- Karts will start this race in their qualifying order.
- The race ends when all karts cross the Start/Finish line after the race time elapsed has reached 75 minutes.
- The winner is the kart that did the most laps in 75 minutes.

4.2.4.1. DRIVER CHANGES

During the Endurance race, drivers will have to switch out on each kart every 15 minutes OR perform a significant costume change, outside of the car.

- A long horn will sound when it is time for the drivers to switch.
- Teams must enter pit row as soon as possible after hearing the horn.
- KARTs that have just passed pit lane when the horn sounds will have to complete their current laps before switching drivers.
- See Section 5.2 for pit lane safety rules.

5. RACE RULES

5.1. ON-TRACK SAFETY

5.1.1. FLAGS

During the race weekend, several flags of varying colors will be displayed. Some will be accompanied by audible horn sounds as well.

- Additional rules for flag conditions may be imposed by local race event organizers based upon the conditions of their track/event. Please make yourself familiar with any additional or differing rules of the race you are attending.

5.1.1.1. GREEN

The green flag indicates that it is time to race.

- You will see the green flag at the start of the race, and once a yellow or red flag condition is cleared.

5.1.1.2. YELLOW

This flag indicates a local or full-track caution condition. Drivers should slow their kart to a nominal speed to navigate around the track safely. Pay attention to track workers, stopped karts, and damaged track sections.

- A full-track caution flag will be accompanied by a single short blast of the horn.
- No passing under caution, under any conditions.
- While the course is under caution, passing is generally not allowed and drivers should remain in their current order unless instructed otherwise by a track official.
- Very slow karts are encouraged to allow moderate and fast karts to pass you at the end of a caution period. Pay attention to those around you.
- All drivers are encouraged to indicate that they know a caution is underway by raising a hand as a signal.

- You may pass karts that have broken down or embedded themselves in the wall if you can do so safely.

RESUMING FROM CAUTION/YELLOW

- The Green Flag will come out, and two short horn blasts will be heard right as the current race leader is crossing the start/finish line.
- Once the leader kart passes the start/finish line, normal racing speed may resume.

5.1.1.3. RED

This flag indicates a temporary pause to the racing due to something rendering part of the track temporarily impassable.

While the course is under a red flag, slow down and prepare to stop. Passing is not allowed, and drivers should remain in their current order unless instructed otherwise by a course worker.

5.1.1.4. BLACK

If you see The Grim waving this flag at you, make your way to the penalty box immediately. The Grim has something devious in mind to punish you for an infraction The Grim has noticed. Black flags may also be waived for major safety concerns by The Grim or other race officials; drivers should pit immediately.

5.1.1.5. WHITE

This flag signifies that the final lap of the race has started.

- This flag means that if your kart is on fire and rapidly losing power, the end to its suffering is near, and you should push it as hard as it can go in the last remaining seconds of the race.
- This flag means that now is the time to attempt any heroic and inadvisable overtakes for finishing position.

5.1.1.6. **CHECKERED**

The race is over. Finish your lap, then head back to the pits, or don't. Watch out for spectators, people driving slowly, people doing donuts, driving the course in the wrong direction, etc.

5.1.2. **HORN**

The horn has two purposes in a race.

- Its primary purpose is to sound the beginning and end of a caution.
  - One short blast indicates that the course is under a caution, and you will see every flag station waving the yellow flags described above.
  - Two short blasts indicate that the caution is been lifted and normal racing can resume. These two blasts are usually timed right as the current race leader is crossing the start/finish line.
- The other use for the horn is to signify a mandatory driver change in the endurance race. (See 4.2.4.1.)
  - When you hear this one long horn blast, you must pit immediately even if you have already done so and perform your mandatory driver change.

5.2. PIT LANE SAFETY

Karts and participants should not block the pit lane at any time during the weekend

- Reversing in pit row is not allowed during races
- Driving the wrong way in pit row is not allowed during races
- Karts should be stored with their battery disconnect in the “Off” position when not being raced or when unoccupied (Section 1.13.2.)
- A brisk walking pace (~5mph) should be maintained while driving in pit lane.

WARNING: *Race participants should not stand, loiter, or otherwise occupy the pit lane during practice/qualifying/race sessions. Please keep aware of vehicles around you. Stand inside your pit stalls unless you are servicing or retrieving your vehicle, or your team will face penalties.*

5.3. RULES INFRACTIONS AND PENALTIES

5.3.1. THE GRIM REAPER

One person, designated by the Sanctioning Body, will don black robes and carry a large black flag any time karts are on the track. Throughout each race over the course of the season, the Grim Reaper has supreme, unquestionable reign over the track. The Grim Reaper’s job is to pick out violators. If the Grim Reaper sees you commit a misdeed, your kart will be impounded in the penalty box and the Grim Reaper will determine your punishment. The Grim Reaper’s word is law. There is no arguing with the Grim Reaper. There’s no reasoning with the Grim Reaper. The Grim Reaper was born of these rules, and you shall worship the Grim Reaper.

5.3.2. WHY AM I UPSIDE DOWN?

It's simple: if a race participant flips their kart and the driver rolls out of it during qualifying, race or any other point when other karts are on the track, the team will receive a penalty.

The Grim will determine the weight of this crime, varying from a qualifying penalty, a stupidly amusing penalty, or - if the participant is somehow determined to be a danger to everyone in a non-hilarious way – the race officials will consider making the participant fix it or park it for the weekend. Test your kart, and make sure each driver knows the limit. There's no reason for a driver to be ejected on the track for incompetence. Test your kart ahead of time in parking lots and other low risk places.

5.3.3. THE "I AIN'T EVEN MAD" CLAUSE

We don't like people who half-ass things. If you are going to break one of our rules, we encourage you to go full ass, above and beyond the call of duty. We don't want cheap and sneaky exploits. We want clever hacks that will make great stories. If you feel like taking things too seriously, we want you to build something so blissfully impressive, so Adrian Newey-esque clever, or downright SpeedyCop crazy that your rule infraction gets an "I'm not even mad, actually I'm impressed" reaction from race officials. This may (or may not) exempt you from penalties.

5.3.4. THE "SPIRIT OF POWER RACING" CLAUSE

We're just a show. We're here to have fun. Rules will get bent, karts will break, so just relax, and enjoy yourself. If you're reading line by line and looking for a 1/10th of a second lap time improvement, you're going to have a bad time. Aside from safety, not much else really matters. You don't race to win — you race 'til you break. Don't get too wrapped up in or obsessed with podiums or lap time records. Share tools. Be friends with rival teams. Have rivalries just because it's hilarious. Make friends. And most importantly, be excellent to one another.

5.4. Race Awards

5.4.1. Medals

5.4.1.1. Gold 'Yes'

You are the Race Winner!!! You get a big ol' Yes from us! You also get a high-five.

5.4.1.2. Silver 'OK'

You are the first loser, but that's ok. You're better than most so you get a low-five.

5.4.1.3. Bronze 'No'

What, you get an award too? Geez, I guess so, but you get a big "no" from us. Also, your low-five is down real low, and thus we will pull our hand away in a metaphorical nod to your performance: too slow.

5.4.2. Race Awards

These awards may be handed out in addition to the normal medals listed above, at the discretion of the race officials.

5.4.2.1. The "Crash and Burn" Award

Congratulations! You have chosen to build an off-road vehicle. The only problem is that the PRS is an on-road racing series, which means you've spent more laps on the wall than on the track. You also might be Australian and have spent most of your time upside down. Luckily, there's an award for that.

5.4.2.2. The "Epic Fix" Award

You did what to get this running again? We usually would make fun of somebody trying this hard, but we can't believe how many times you had to fix this heap. You did it though, and the kart is limping around the track, barely moving but, you're going to finish. You scrounged parts from random strangers. You broke your transmission three times and still managed to get back on the track. Literally nothing stopped your team. You didn't win, you didn't even look good while losing, but you managed to pull through in the end. Here's to you, crazy person.

5.4.2.3. THE "BEST IN SHOW" AWARD

This is a prized treasure. You've built something so incredible we must pause and collect our breaths. You've built a kart that looks brilliant. It looks or drives so nicely that we felt bad when some team plowed it into the wall on the way to winning another Crash & Burn. If you intend to win this award, be sure to take a lot of pictures before race day, because she ain't going to be pretty after we're done. This award is also for vehicles who fall into the "Technically legal" category. We know you bent a rule to the razor edge, and we want to encourage that behavior (but it will probably be banned at the next race/end of season). Thus, we will award you for the brazen insanity for pursuing it in the first place. Consider this the PRS version of the Index of Effluency.

5.4.2.4. THE WEEKEND OVERALL WINNER TROPHY

Each locale will provide a custom trophy based on the region. Ideally if you are reading this and are a local representative in your region, you are responsible for creating this custom trophy for the team that wins the most cumulative points in the entire weekend.

6. SEASON STRUCTURE

6.1. SCHEDULE

Find the schedule on the Powerwheels Racers for Adults Facebook group, the official PRS website, or your local organizers.

6.2. POINTS

6.2.1. SEASON POINTS

The points system will reward the **BEST TWO (2)** cumulative weekend points.

- The sum of your team's points from your best two (2) race weekends are tallied and count towards the championship.
- If participating in more than (2) events, only the best two are counted.
    - i.e., burning up a motor in one race weekend won't put you out of the championship, provided you attend two others.

This also allows for some of the smaller or more remote teams to compete for the championship without having to go to more than two events.

6.2.2. **RACE POINTS**

Race points are earned on a per—race basis by each vehicle's finishing position, according to the following table:

Place	Points (2018+)
1	75
2	63
3	54
4	45
5	37
6	30
7	24
8	19
9	15
10	12
11	10
12	8
13	6
14	4
15	2
16	1
17	0
18	0
19	0

6.2.3. **MOXIE POINTS**

Moxie is that little extra spice that levels the playing field. Not only can you win race points, but you can also entice and rile up the crowd to win points from them. It will be your team's job to find ways to garner audience attention and keep it over your competitors.

This is the ultimate pursuit of the weird. Giant boom-box karts, Lucha masked racers, pre-race dance party and confetti cannons are all par for the course.

Consider this the social engineering section of your exam. Some teams will write this off, but we at PRS think you should take heed: this is where real champions are crowned. Under develop your kart against your rival hackerspace? Easy! Gain those points back by dressing up as a chicken. Your odds to win are good if your goods are odd. Consider it Halloween in July, and you must get more candy bars than that kid next door.

The crowd is instructed to reward your odd behavior by pressing the button by your team's label. Next to each button is a 6"x1.75" piece of space that is reserved for your team's name and number. You are in charge of making a plaque that occupies this space and identifies who you are to the crowd. You can make it as fancy as you'd like, it can be lit up (you'll have to power it on your own), reflective, whatever, as long as it has the name of your team and your kart number. Do not do a last-minute job on this one because it is the first thing the crowd sees when they are about to vote for you. There's nothing like setting your kart on fire to the applause of an audience only to realize that you used duct tape and silver sharpie to identify yourself on the board and now no one knows who you are.

6.2.3.1. MOXIE LABEL

Each kart shall have a label for the moxie board. Teams must also submit a digital photo of their car with a driver seated for the online moxie challenge.

- The size shall be no more than 6 inches across by 1.75 inches high.
- You must provide a photo of your car during registration, to be used on your digital moxie label. If you do not provide one, a generic icon will be used in its place.
- Simple is good. Flashy is better.
- Ideal labels should contain
  - Kart and/or team name
  - Kart number
  - Vague / iconic information in alignment with design

6.2.3.2. COUNTING MOXIE POINTS

A microcontroller driven button board, the ***Moxie Board***, tallies the votes of members of the public during races.

The Moxie Board responds to one button press with a one second delay.

This is so you don't plant yourself or your teammates out there by the board and just sit on the button all day. It should be noted that this is considered a lazy and not-creative way to cheat, and thus lame. Don't be a lame team.

- Moxie points will always total **300** per race. These **300** points are divided among the teams according to the percentage of button presses received from the crowd.
- Moxie points are added to race points to determine teams' overall winningness.
- Moxie will be very crucial to your potential victory and glorious bragging rights.
- Moxie points may also have an online scoreboard for remote spectators.
- Moxie Board malfunctions happen, and the points will be counted as-is on the moxie board even with a malfunction.

Source Code and board design suggestions can be obtained by inquiring through official communications channels.

6.2.3.3. MOXIE CHALLENGE POINTS (INTERNET INFLUENCE)

Moxie Challenge Points are earned by completing various challenges throughout the season and posting evidence of the challenge completion on Instagram. Teams can earn points towards the Influencer Award and Total Season Points. No points from this challenge count towards individual race weekends.

- Every team must have a unique Instagram account
- Follow @PowerRacingSeries on Instagram
- Every post must have #powerracingseries, #carname, and the #number of the challenge
- You can enter each challenge more than once but only one will count
- It must be evident that each completed challenge is related to PRS (show cars, teams, races, etc.)
- Spectacular posts can be given up to 2x bonus points.
- Posts that are liked by PRS Sanctioning Body's account will be counted; a post that doesn't count will be commented on.
- Points can be redeemed over the course of the season beginning on the first day of the first race and ending on the last day of the last race.
- A total of **300** standard points will be available to be redeemed per season per car.

6.2.3.4. MOXIE POINT HIT LIST

Are you a new team? How about an old team looking for some more points? Come here. Closer. Let me tell ya something. It'll be our little secret. You can get up to 150 bonus points per season if you make one of the karts below. Yeah. Seriously. I'm not messing around. Just try it.

NOTE: *These points will be awarded on a sliding scale of effort, as per the discretion of the sanctioning body. The more time you spend on making these look good (and driver costumes count!) the more points you get. If you duct tape a bunch of cardboard boxes and scream "THAT'LL DO," we will reward fewer points.*

If you're working on a particularly ambitious themed build and it isn't represented in the list, email the sanctioning body to consider your creation for extra points.

Points will be awarded at the end of the season as part of the awarded totals.

Without further ado, here are the karts that could earn you up to 150 bonus points:

2024 Moxie-Theme Hit List

1. Forklift, with functioning forks
2. Concrete car (body made of concrete)
3. Tub life V2, actually holds water during a race
4. Firetruck, with working hose
5. Any kart with functioning pop-up lights (Winking is an extra +50)
6. Rivian pickup truck
7. Any 1960s muscle car with a fake V8 engine noise
8. Ford model T
9. 1990s Ford Taurus (America's ugliest car ever)
10. Kart in the shape of a fruit

6.3. SEASON AWARDS

Four awards are given out each season.

- If a kart wins more than one of these awards, that kart's team will choose one award to keep, and the remaining award(s) will be given to the next-most-qualified team.
- Awards must be picked up at the Summit following a season. Teams that cannot attend the summit should make arrangements to receive their award.

6.3.1. THE NIKOLA CUP

The **Nikola Cup** is awarded to the kart with the highest total **Moxie Points** plus **Race Points** in a season.

6.3.2. THE MOXIE CUP

The **Moxie Cup** is awarded to the kart with the highest total **Moxie Points** in a season.

6.3.3. THE CHAPMAN TROPHY

The **Chapman Trophy** is awarded to the kart with the highest total **Race Points** in a season.

6.3.4. THE INFLUENCER AWARD

The Influencer award is given to the team with the most moxie challenge points accrued during the season.

APPENDIX

A. RACE PARTICIPATION, MEMBERSHIP, AND REGISTRATION

The 2024 race requirements fees are as follows:

Race registration costs for racers and carts are dependent on event type and sponsor availability, and therefore subject to change. Any fees collected for a race entry will be described fully in the race registration form.

DRIVER-PARTICIPANT REGISTRATION

Each driver-participant, Pit crew member, volunteers, family members, and anyone else joining you inside the Pit Area or Event Envelope is required to sign a race waiver before their first race. Drivers-participants must register using the race form for each event.

KART ENTRY REGISTRATION

Every Kart competing for season points must register for two or more race events on the official PRS website, have a unique number, and conform to the PRS rules.

Kart Registration Entitles you to:

- Participate in the registered race*
- Reserve a kart number of your choice (first come first serve)
- Reserve a race weekend transponder (provided by the sanctioning body or personal transponders)
- Karts with integrated iLap (or other compatible system) transponders should enter their transponder number into their registration form

(*assuming the event or race is not full)

Reach out to the sanctioning body at info@powerracingseries.org if you would like to sponsor race fees for teams or if you need help covering race fees.

B. Requirements for Official PRS Race Event

Want to host a race? We're excited to help you get started. See the link below for the race hosting application.

http://powerracingseries.org/hold-a-race/

https://www.cognitoforms.com/TechnicalDirector1/racehostandeventdiscovery

C. VOLUNTEER TASKS FOR ADDITIONAL MOXIE POINTS

If you're interested in working on any of these items let the sanctioning body know of your intent and for further information.

Timing and Scoring System Evaluation, Improvements

- Evaluate all free/cheap (<$100 per year) timing and scoring systems
  - Robustness during a race
  - Tech Support/ Online Community
  - Needs to support 50 vehicles on track
  - Needs to interface with I-Lap
- Crowd/Racer screen to see stats (In person / Online)
- MQTT Integration

PRS Specific Motor Controller / VESC

- Design a purpose built VESC based on our current requirements
- Produce Design files
- Create sourced list of parts and components
- 3D enclosure model (to be 3D printed or machined
- Bonus - Telemetry for Track Boosts

Boost Power-Up Gate

- Flashes at a random time during the race
- Reads a kart's transponder
- Cars take a different line/route to get the boost
- Can be extra points, maybe interface with a telemetry on VESC
- Build code and electronics to achieve goals
- Needs full documentation on construction and race implementation

Internet-Connected Moxie Board

- Design a way to count moxie points from an online source, like a twitch stream
- Would add to the physical moxie board
- Display count totals on twitch stream
- Need to maintain the 1 vote/second standard that the physical board restricts
- Document how to set up and troubleshoot

Transponder DIY How-To

- Build (or source) 3D model of a simple transponder case
- Design and print a bunch of boards
- PRS will retain all designs
- Lap counter LCD would be a great addition
- Assemble baggies of the components needed
- Tutorial on transponder construction with pics
- You tell us how much we should “sell” them for (at cost)
- Specifically, just the PCBs and components
- PRS funds the kits
- Runs on Lipo
- Supply all design files to PRS

D. RACE LOGISTICS

- Tracks adhere to basic safety regulations unless otherwise exempt.
  - Tires, water barriers, straw stacks that interlock via connectors, rope, or layered stacking
  - People barriers 4-6 feet from track perimeter in ANY crowd-facing section of track
  - Track at minimum should be 100ft x 60ft in size

- Venue must have the following facilities for operation
  - At least 6-10 pit stalls for race-day operation
  - Ample power drops for race day (Suggest 20A/120v per 2 teams)
  - Timing and scoring bridge
  - An appropriately sized speaker system with microphones that can cover venue's hearing range, both track and guests.
  - Crowd control means to ALWAYS keep unauthorized people off the track and out of pit stalls
  - Inclusion of PRS within venue's overall insurance coverage

- The exact minimum materials needed to operate event
  - A moxie board with at least 10 slots for voting
  - Timing and scoring system that includes timing chain, laptop, and timing modules with batteries for BOTH days
  - Flags, with a full set of race flags for race control, and at minimum 6 additional yellow flags for marshals
  - Race liability release waivers, and colored one-time use wrist bands
  - A very loud truck-like horn or siren that can signify caution periods, with easy recharge ability

- Race Day requirements
  - Tech inspection adhering to PRS guidelines
  - Safety overviews for track marshals according to PRS guidelines

- The following events MUST occur for a PRS weekend to count as an official race:
  - A qualifying session from 30-60 minutes to determine field
  - Four (4) Sprint Races 30-50 laps depending on race length calculated to approximately 10-15 minutes. One race may be swapped for relay race.
  - One (1) 75-Minute Endurance Race

- Race Weekend Roles
  - Announcer/ Lead Race Marshal
  - Timing and scoring official
  - 5-6 track marshals
  - Tech Inspector
  - Grim
  - Moxie Board Operator(s)
  - Waiver handler/Track entry manager
  - 5-10 volunteers for track setup/teardown

E. TECH INSPECTION CHECKLIST

New version to be created based on ruleset changes for 2024 list below is a starting place. Page(s) will be printable for easy use trackside. Online/Digital form is also incoming.

- Bumpers
  - At correct height; 4-6 inches off the ground.
  - Ends blunted in some manner e.g., pipe caps, rounded ends, chunk of wood
    - Would the bumper puncture a barrier if the car slid sideways into it?
  - Covered in nonmetal material such as wood or foam to protect ankles and shins of passers by
  - Bumpers do not wrap around the car and wheels are exposed from the sides
    - This is the No Bumper Cars clause
- Emergency Cut off
  - Accessible from outside of car
  - Visible from a few feet away.
  - Easily actuated from inside and outside of car
  - No power to motors or high current devices when e-stop is shut off.
- Fuse
  - Must shut off power to all motors when removed (this includes field windings on non-permanent magnet motors)
  - No active cooling
    - Fans, dry ice, liquid nitrogen, heat sinks with circulating water, evaporative cooling, are all active.
  - Inspect any passive cooling measures carefully for possible bypassing of the fuse.
    - Heat sinks must not bridge the terminals.
  - Flyback Diodes* across the fuse are allowed but should be tested with the fuse removed to ensure no current flows from the battery to motors through the diode.
    - *In case of a fuse failure, these allow any regenerative current to safely flow to the battery and not cause a spike that could result in damaged electronics
- Chains/gear boxes
  - Does the chain run near the seated position of the driver?
    - If so, must have adequate guarding
  - Is there an exposed run of chain near where a track marshal would be likely to place their hands when pushing a car?
  - Gear boxes are to have areas where the gears mesh enclosed so as not to catch clothing, lanyards, or fingers
    - In running nips are bad news- rotating or moving parts that will pull stuff into them if caught.
      - These like to remove body parts so, pay attention.
- Batteries
  - Battery terminals covered to prevent shorts
    - Electrical tape or enclosures are just a sample of acceptable methods
  - Batteries are secured in such a way that when the car is turned upside down the batteries will remain securely in the vehicle

- Proper method of extinguishing of battery fire is available
    - ABC dry chem for SLA
    - Bucket o' sand/ Class D for LiPo
- Some measures have been taken to prevent battery puncture during collisions
    - Look for things like batteries inside of the frame and hard metal or plastic sides, or all of these.
    - Batteries absolutely cannot be used as a bumper.
- Charging method is safe
    - Proper charger for the chemistry
    - Cell balancing is being done for LiPo
    - No, you can't just hook up a 14V power supply to your car batteries
- Batteries are in good serviceable shape with no punctures or holes in housing.

- Frame
    - Driver when seated in racing configuration must be fully inside of the profile of the frame as seen from above
        - If a car collides with them will the frame be hit before the driver?
    - No sharp protrusions that can intrude into the frame of others.
    - Egress from vehicle is possible in less than 5 seconds
        - If it looks crazy sketchy, ask them to demonstrate, otherwise visual assessment is fine.
- Brakes
    - MUST BE ON THE CAR
    - Actuation method is solid
        - That duct taped paint mixing stick is not going to survive when you freak out and try to make and emergency stop.
    - Brakes that contact the ground are not viable brakes
        - No flintstone style brakes or stick with rubber stapled onto it.
    - Regenerative motor brakes are not brakes for this requirement. Mechanical brakes must be the primary brakes of the vehicle and must be capable of operating without electrical power.
    - Brakes must function when car has no power.
- Wiring
    - High current wires adequately insulated from shorting to frame or each other.
        - Extra scrutiny should be placed on wiring before the fuse.
- Helmets are intended for motor sports and in good repair
- Helmet should have some sort of chin strap to keep it on your head
- Eye protection is required for racing either face shield or safety glasses
- Body could maybe kind of be considered a children's toy (or at least get a laugh from some of the crowd)
    - Car approximately meets sizing requirements 62" long 36" wide 72" tall
        - If it looks like it is close and clears the truss easily, no need to measure everything. We don't have a sizing box, this isn't FIRST
        - Length is a bit flexible, Width less so. Make sure people can pass the car.
- Body parts visually assessed as "not likely" to fall off due to routine crashes and rubbin' is racin'
- Car is propelled only via electric motors. No gas, steam, or other non-electric motors, seriously.

F. ROLES

Option to participate in Board Meetings

- Want us to make you an actual board member? Let's talk.
- Social Media Manager
    - We want to continue to grow our community and brand awareness, and that includes keeping our various media platforms active with some of the copious cool photos and videos that we have (some sifting required). Responsibilities would include making posts 3-4 times a week to both our Facebook and Instagram.
- Community Moderator
    - Discourse, PRS Facebook, Instagram, TikTok etc.
    - Respond to questions about the series
    - Flag inappropriate posts
- Corporate outreach partner
    - Reach out for sponsorship opportunities
    - Communicate sponsorship tier benefits
    - Coordinate Sponsor Requests
    - Coordinate with PRS Treasury

G. TRACK MARSHAL CHEAT SHEET

The Sanctioning Body hereby assigns the community to develop and update a Track Marshal 101 guide for new marshals. The goal is to cover the basics of proper track marshalling and race safety.

H. CONTACT INFORMATION

info@powerracingseries.org

https://allmylinks.com/powerracingseries

https://forum.powerracingseries.org/

PRS Sanctioning body reserves the right to change these rules at any time, for any reason, with or without prior notice.

Bound Copies of this ruleset may be purchased by emailing the Power Racing Series Board of Directors. Price is $175 each, shipped.