

NPRA

National Professional Racers Association
1996-2009

2009

RULE BOOK

GENERAL

COMPETITION REGULATIONS

I. RACE PROCEDURE

A. REGISTRATION

1. All cars shall be inspected and impounded prior to qualifying.
2. No cars will be accepted after announced registration closing time.
3. The chassis should be engraved with the drivers entry number, class, and the initials of the tech inspector. The body should be marked with a distinctive spot of non-removable paint or ink.

B. ACKNOWLEDGMENT

All racers entering an event should be aware of the rules governing it, and withdrawal is not an option in the case of a protest.

II. NO SMOKING

Smoking is prohibited within the raceway at all events.

III. NO ALCOHOLIC BEVERAGES

No alcoholic beverages may be consumed within the raceway or within close proximity. Consumption of these beverages must be confined to those establishments licensed for this use.

IV. DRIVERS MEETING

It is suggested that a drivers meeting be held prior to qualifying to discuss race and qualifying procedures, marshaling responsibilities, racer conduct, glue rules, track calls, disqualifications, track tech, etc. Drivers with specific questions should ask them at this time.

V. TRACK PREREQUISITES

Qualifying voltage for all classes will be limited to a maximum of 16.0 volts, and race voltage will be limited to a maximum of 14.0 volts. This voltage is to be measured, unloaded, without the cars on the track, using accurate digital voltmeters to measure the values.

VI. TRACK CONDITIONS

A. LIMITED GLUE

1. Glue zones must be clearly marked, and be no more than ten inches (254 mm) in length as measured from the start of the curve backwards. Glue may be applied to glue zones only and then may be spudged or smoothed past zone and through turn with glue spudger and/or hand (fingers).
2. Glue may be removed from the turns with a clean, dry, rag only. Care must be taken to avoid changing conditions on adjacent lanes.
3. All gluing and cleaning of the track braid and straights must be completed before the power comes on. No glue or other chemicals may be put down or removed from the track surface while the track power is on.

B. SPRAY GLUE

1. The track will be cleaned and sprayed prior to the racing and maybe re-sprayed as deemed necessary by the race director(s).
2. The track surface in the turns may not be touched or altered in any way. No addition, deletion, or redistribution of the glue is allowed without specific and prior race director approval.

C. TRACK CLEANING

All braid and the track surface of all straight sections and the bank may be cleaned in both spray glue and limited glue conditions.

D. ACCIDENTAL SPILLAGE

If an accidental spill occurs, the race director may re-spray the affected area to restore fair racing conditions.

PLEASE NOTE:

Most track cleaning solutions are very FLAMMABLE!

Care must be taken during their use. Fire extinguishers MUST be located in the immediate area and all other necessary precautions MUST be taken to insure adequate safety!

VII. QUALIFYING

A. ORDER

1. All Classes: Determined randomly, such as by blind draw.

B. FORMAT

1. Time - A one minute run is allowed to establish the fastest single timed lap. Back up times will be recorded to break ties. Lanes will be chosen at random. G27 Spary will run a one minute no-bye round of qualifying.

2. The first qualifier will receive a one minute glue break period.

3. Byes - A racer may take one bye for any reason (may abort initial qualifying attempt and re-attempt during the bye round).

a) Each racer will receive two 30 second rounds for qualifying.

b) Cars will be technically inspected prior to their bye round.

c) Times made during the initial attempt and the bye round will count.

d) Byes will be run (racers remaining time less a thirty second deduction) at the end of qualifying for each respective class; order will be the same as the original round.

4. If a lap timer is not available, qualifying may be conducted in the form of a one minute run for total laps and sections. Adequate marshaling must be available.

5. Each racer will be given a specified amount of time (not to exceed fifteen seconds) to get hooked up to begin his/her qualifying round. This should be set into the computer to automatically start the time and make it uniform for all racers. Any registered racer not present to qualify when called will be given an automatic bye. Any racer unavailable for the bye will stand by his/her previous best, or if no times are recorded, will be placed in the first (lowest) level of consolation races..

VIII. EUROPEAN (STAGGERED) LANE ROTATION

A. NPRA events will follow the European or staggered system. The rotations for tracks marked with American Model Raceways colors are as follows:

1. *Consis* - Racers will race on either the red or the black set. Racers on the red set (red, green, blue, purple) rotate down the track to purple and then jump to red continuing rotation down the track. Racers on the black set (black, yellow, orange, white) rotate up the track to white and then jump back to black continuing rotation up the track.

2. *Quarterfinal, Semi, and Main Event races* - Racers running on the red set rotate down the track to purple, keeping on the red set. After running purple, rotate to the black lane of the black set. After running white, jump to red and rotate as indicated for the red set. Continue until all eight lanes have been run.

IX. AUSTRALIAN RACE FORMAT- MODIFIED

A. All entrants will contest a series of Consis, Heats, Quarterfinals, Semifinals, and Finals depending on the number of entries.

B. All races designated as Consis will be contested over 4 lanes only, running on either the red set (red, green, blue, purple) or the black set (black, yellow, orange, white).

C. All other races will be contested over 8 lanes.

D. All races will be on a "move up" basis. The following schedule has been adopted to ensure that a minimum of four drivers move up from each race. The following has been created with the intention of racing with no "Round- Robin" races.

1-8: Main only.

9-10: top 2 qualifiers go to Main, run Semi, and top 6 move up.

11-16: 2 Semis and a Main.

17- top 12 from qualifying into Semis, all others move to 1 heat with top 4 moving to Semi.

18-23: top eight qualifiers move to Semis, all others divide into 2 heats moving up 4 most lap totals from each. Then run 2 Semis and a Main

24-32: 4 Quarterfinals, 2 Semis, and a Main

33-34: top 26 from qualifying into Quarters. Remaining racers into one 4 lane 2x3 race using red set, black set rotation with the top 6 moving into Quarters. 2 Semis and a Main.

35-36: top 28 qualifiers into Quarters. Remaining racers run one 4 lane 2x3 race using red set, black set rotation with top 4 moving to Quarters. Then 2 Semis and a Main.

37-38: top 22 qualifiers into Quarters. Remaining run two 4 lane 2x3 races using the red set black set rotation. Top 5 from each move into Quarters. Then 2 Semis and a Main.

39-48: Top 16 qualifiers into Quarters. Remaining racers into four 4 lane 2x3 races using red set, black set rotation. Top 4 from each race moving into Quarters. Then 2 Semis and a Main.

49-54: Top 22 qualifiers into Quarters. Remaining racers into four 4 lane 2x3 races using red set, black set rotation. Top two from each moving into Quarters plus two top lap totals not finishing 1 or 2. Then 2 Semis and a Main.

55-64: Top 16 into Quarters. 17-32 into consis. Remaining into four subconsis using 4 lane 2x3 red set, black set rotation. Four move up each race. Then two Semis and Main.

65-80: Top 16 qualifiers into Quarters. Qualifiers 17-32 into consis. Qualifiers 32-48 into sub consis. Qualifiers 49-80 into sub-sub consis. All consis using red set black set rotation with 4 lanes 2x3 races. Top 4 from each moving up.

81-unlimited: using same as sub-sub-sub-sub.

E. Lane choice will be determined first by qualifying position then by lap total and position from previous heat.

F. In moving racers up from Consis, Quarterfinals, or Semis, the same logic applies. Lane choice selection order is determined by the total laps turned by the winners of the qualifying race.

1. For Main event move-ups first pick goes to the racer with the most laps out of the two Semis, second pick goes to the racer with the most laps out of the other Semi.

2. Choices are then alternated between Semis. Third pick goes to the secondplace finisher in the Semi that had first pick, and fourth goes to the second-place finisher in the Semi with second pick, etc.

G. Racers are seeded into the appropriate Semis, Quarterfinals, or Consis according to the following pattern (example given for Semis and Quarterfinals; Consis same pattern as Quarterfinals).

<i>24 or fewer entries</i>	Semi-A	Semi-B
Qualifier #	1	2
	3	4
	5	6
	7	8
	9 or winner Heat-A	10 or winner Heat-B
	11 or second Heat-A	12 or second Heat-B
	13 or third Heat-A	14 or third Heat-B
	15 or fourth Heat-A	16 or fourth Heat-B

<i>25 or more entries</i>	Semi-A	Semi-B
	Quarter A or B winner w/most laps	Quarter C or D winner w/most laps
	Other winner of Quarter A or B	Other winner of Quarter C or D
	Second place from Quarter with first pick	
	Second place from Quarter with second pick	
	Continue alternating for remaining picks	

Quarterfinal-A	Quarterfinal-B	Quarterfinal-C	Quarterfinal-D
Qualifier # 1	2	3	4
8	7	6	5
9	10	11	12
16	15	14	13
17	18	19	20
24	23	22	21
25	26	27	28
32	31	30	29

H. Heats, Consis, and Quarterfinals are run: D, C, B, A.

I. Semis are run: B, A.

X. DURATION OF RACES

RACE	SEGMENTS	SEGMENT LENGTH	LANE CHANGE
MAINS			
G7	8	5 MINUTE	4 MINUTE
G27	8	4 MINUTE	4 MINUTE
G7 OMO	8	4 MINUTE	3 MINUTE
G 27 SPRAY	8	4 MINUTE	2 MINUTE
SEMIS			
G7	8	3 MINUTE	3 MINUTE
G27	8	3 MINUTE	3 MINUTE
G 27 SPRAY	8	3 MINUTE	2 MINUTE
QUARTEFINAIS			
G7	8	2 MINUTE	3 MINUTE
G27	8	2 MINUTE	3 MINUTE
G 27 SPRAY	8	2 MINUTE	2 MINUTE
CONISIS & SUB-CONISIS			
G7	4	3 MINUTE	3 MINUTE
G27	4	2 MINUTE	3 MINUTE
G 27 SPRAY	4	2 MINUTE	2 MINUTE

XI. MISCELLANEOUS PROCEDURES

A. BLACK FLAG

The race director is obliged to black flag any car which is dragging, interfering with other cars, or continuously de-slotting due to mechanical problems. Upon being black-flagged, the driver must bring the car in for repairs immediately. If the problem is not corrected, the black flag may be enforced again as required.

B. TRACK CALLS

1. The power will only be turned off for extremely unfair or dangerous situations. The following are the only acceptable reasons:

- a) Braid up
- b) Power failure (one lane or all)
- c) Debris in slot
- d) Lap counter or track equipment failure
- e) An unmarshallable car
- f) Car in wrong lane (rider)

In both the Wing-Car, riders will be track calls.

2. During a track call, there will be absolutely no work performed on the cars or lane preparation. Doing so will result in a 20-lap penalty. A second infraction will result in disqualification. This restriction applies to both drivers and their pit helpers.

3. During track calls due to **e)** above, an unmarshallable car, racers may continue to work on cars in the pits, if the cars are already in the pits at the time of the track call. A car may not be taken from the track into the pits during a track call. Work may not be carried out during tracks calls **a), b), c),** or **d)** above, i.e. braid up, power failure, computer problem, etc.

C. LAP COUNTER

1. The lap counter will be considered correct unless it can be proved otherwise. The counter should be corrected if necessary (as when a car crosses in the wrong lane). If a major error occurs in the counting process that cannot be corrected, the race director may at his option:

- a) Assign responsible stewards to count laps or verify the counter.
- b) Add or subtract mutually-agreeable laps as established by race officials and drivers.
- c) Restart the segment.

d) Restart the race from the latest possible point.

2. Laps should not be added or subtracted unless the race director is certain the counter is incorrect.

3. For a major error in counting, the steps taken should preserve as much of the race as possible, while remaining as fair as possible to all racers.

D. MARSHALING

All drivers are expected to marshal the race(s) preceding their own races. Substitute marshals must be acceptable to the race director and drivers. Good racing is not possible without good marshals. Every racer is required to do his/her part both before and after racing if necessary. Failure to fulfill marshaling responsibilities will result in lap penalties and/or disqualification. *All cars will be impounded after all races to insure fair and proper marshaling responsibilities. Cars will be returned and move-up drivers will be given equal time to prepare for upcoming races.*

E. LANE CHANGE

1. Following each lane change, all cars must be returned to the track in the position where they stopped. Cars may be moved backwards to allow easier restarting. Putting a car back on the track forward of its original position will result in a five lap penalty. A second infraction will result in disqualification.

It is the driver's responsibility to know where his car stopped. When a car is removed from the track during racing the same rule applies. Corner marshals should notice the cars stopping in their section and pay close attention to cars near the lap counter section. At the conclusion of the race all cars are impounded and fall under the control of the tech director, and remain impounded at his discretion. Cars will be left on the track until the order of finish is positively determined.

2. Racers are required to use lane change cards at all events. These cards must stand vertically in the slot of the lane the driver will be changing to at the end of the break. Lane cards may not be wider than the slot width. If a lane is without a lane card during a lane change (except in the case where a returning driver was sitting out) the car must be moved back as far as possible towards the lap counter, but not to a position where any extra laps would be gained.

F. UNSPORTSMANLIKE CONDUCT

1. Unsportsmanlike conduct on the part of a driver or turn marshal will be subject violators to immediate disqualification at the discretion of the race director. Verbal abuse or profanity will not be tolerated. The race director may first warn drivers, marshals, or pit helpers if their behavior is unacceptable. Serious or repeat violations will result in a five lap penalty for the first infraction and disqualification for the second.

GENERAL TECHNICAL RULES

All cars/racers are expected to comply with these guidelines. All drivers are responsible for the legality of their equipment. There is one car per driver per class, and one driver per car per class. **Any rule that is in question or is being interpreted improperly will be clarified by the Director NPRA/ESROC/USRA and/or the Rules Committee.**

I. SCALE

The scale to which the cars must be built is 1/24th of the size of an actual race car. For the 1/32nd Eurosport and Formula 1/32 classes, cars must be built to 1/32nd of the size of an actual race car.

II. WIDTH

All cars may not be more than 3.25 inches (82.55 mm) wide at any point. Round head body mounting pins may extend beyond this width. Other type body pins such as glass head type are not allowed.

III. WHEELS

All cars must have two front and two rear wheels, with rubber tires.

A. Rear tire minimum diameter is .750 inches (19.05 mm), unless otherwise specified. Rear wheels maximum width is .810 inches (20.57 mm), unless otherwise specified.

B. Front tire minimum diameter is .500 inches (12.7 mm), unless otherwise specified.

C. Front wheels, or one-piece wheel/tire units, must rotate on their axles.

D. Front wheels must be mounted so as to contact the racing surface, as the car is rocked to the side, before grounding on the chassis or body. This rule applies only to the Wing-Car division.

IV. CLEARANCE

For all classes, the minimum track clearance of chassis, gear, and motor is .062 inches (1.58 mm) unless specified otherwise. No parts may drag. Guide flag/braid, and front and rear tires are exempt from this rule.

V. GUIDE FLAG

One guide or pickup device per car.

VI. BODY

Body designs should resemble full-size race cars. Manufacturers are urged to maintain scale proportions. Variations are allowed to conform to state-of-the-art practices.

A. Paint: All bodies must be fully painted and opaque when sitting on the tech block, except for the sides of the body, which may remain clear. Bodies should be detailed to resemble full-size race cars. Exhaust pipes, body lines, injector stacks, mirrors, and decals are optional.

B. Numbers: All cars must display three numbers of reasonable size and position, 1/4 inch (6.35 mm) minimum.

C. Interior: All cars must contain a suitably painted, 1/24th scale driver, with helmet, shoulders, arms, and steering wheel, mounted in the original cockpit position at all times during race. May be made of any material, paper included.

D. Windshield: Bodies must include a windshield, bound by mould lines. The windshield area may not exceed 1 inch by 1 inch (31.75 mm x 31.75 mm). Windshield must be clear and allow for viewing of driver.

E. Wheel Wells: Wheel wells must be transparent, or cut to the horizontal center line of the front wheel. When viewed from either side of the car, 75% of both of the front wheels must be visible through the wheel wells.

F. Body Openings: The chassis must be completely covered by the body and air control when viewed from above, except for the cockpit opening.

VII. AIR CONTROL DEVICES (Wing-Car Division Only)

A. No part may exceed 2.5 inches (63.5 mm), measured from the tech block surface. No air control devices can be opaque.

B. Side Dams may be a maximum of 2.5 inches (63.5 mm) high behind the rear wheel center line and continue on a taper making them a maximum of 2.0 inches (50.8 mm) high at a point 3.75 inches (95.25 mm) forward of the rear wheel center line. The same taper may continue ahead of the front wheels.

C. All air control devices must have their front edges taped and their outside corners rounded to a degree which will minimize the chance of injury to race participants and spectators.

D. May affix any decals or markings on any air control surface (including spoiler) but air control surfaces cannot be opaque.

E. Diaplane maximum length is .500 inches (12.7 mm). Corners must be rounded to help prevent injury to race participants and spectators.

VIII. PARTS REPLACEMENT

Any component may be replaced during competition except the original chassis or body. Any racer found to have switched chassis or body will be disqualified immediately. All replacement parts must conform to the rules of the class.

IX. GENERAL TECHNICAL SPECIFICATIONS

A. ARMATURE STACK LENGTH

1. Any armature that has been purposely altered or tampered with to make the stack appear longer in an attempt to circumvent the stack length rules as listed shall be declared illegal at the tech inspector's discretion. Stack length minimums shall be required on all three poles of the armature (using calipers with the faces across each end of the pole) and only the actual lamination material shall be used to determine this figure. This is meant to specifically exclude, for example, such practices as the insertion of spacer-type materials between the laminations, abnormally thick applications of coatings, or any other method of artificial compliance with the rule.

2. Any armature presented for tech inspection that is found to be illegal for competition (such as short stack) will be impounded until the completion of the racing class.

3. Litz wire may not be used in any class with armature wire specifications.

B. CONTROLLER SPECIFICATIONS

Any controller/choke may be used as long as the controller/ choke uses no batteries or additional power sources to increase or regulate voltage or amperage at track braid. Specifically prohibited are voltage multipliers or doublers, transformers, batteries, encapsulated components, and capacitors. Specifically allowed are simple wire chokes, and diodes. These lower Power but, do not regulate it. A variable choke operated by the driver shall not be considered regulated. Relays, if used, must be powered by track current only. Controllers / chokes are subject to inspection by NPRA officials to verify compliance with the above rules. Transistorized controllers such as the Ruddock DR40 are approved for NPRA use.

X. TIRE RUBBER

A. No speed type rubber or rubber deemed as speed type rubber may be used in any race. Determination will be at the discretion of the NPRA. Use of this rubber may result in penalties to the racer, up to and including disqualification. Manufacturers are asked not to produce "Race Tires" utilizing speed rubber for use at events.

B. Speed type rubber may be used for qualifying in all classes.

WING-CAR SPECIFICATIONS

GROUP 27

All *General Rules* also apply.

A. Set-up

No restrictions.

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B. Armature

1. See *Armature Technical Specifications* table on page 47 for armature specs.

2. Timing may be adjusted to allow for factory variations

3. Must be a tagged Group 27 armature, and be mass produced by a ESROC/ NPRA / USRA approved manufacturer.

C. Chassis

No restrictions.

D. Wheels, Tires, & Gears

Must comply with *General Rules*; otherwise no restrictions.

E. Bodies

Must be commercially-available and approved for use in restricted classes.

ONE MOTOR OPEN

All *General Rules* also apply. This class is open to any competitor, regardless of driver ranking/classification.

A. Motor

1. No restrictions to setup or armature.

2. Motor Definition – A "Motor" when quoted in relation to One Motor Open racing shall include can, endbell, armature, can bearing, endbell bearing, and endbell hardware.

3. The armature, can, endbell, and magnets cannot be changed at any time during the race.

Changing of brushes, springs, and shunt wire is permitted. In the case of a motor no longer being able to run under its own power, the car is no longer allowed on the track, i.e. the car is now black-flagged.

4. Entrants may only use one (1) motor per race.

5. All motors shall be marked before the start of a series race in a way where it is possible to tell if the motor has been opened after the race. If a racer needs to open their motor during the race it must be opened and worked on under the guidance of the tech director or his/her appointee, then re-sealed. If paint/ nail polish is to be used, a different type should be used for each race, and care must be taken to ensure that the number of motors marked equals the number of racers entered.

6. Random checks should be carried out during the race to ensure that only marked motors are in the cars.

7. If a racer is found with a non marked motor in his/her car at any time during the race he/she shall be disqualified immediately.

B. Chassis

No Restrictions.

C. Bodies

Must comply with *General Rules*, otherwise no restrictions.

D. Wheels, Tires, & Gears

Must comply with *General Rules*, otherwise no restrictions.

E. Race Format

1. One round of 30-second qualifying using race power.
2. All racers seeded into Mains according to qualifying time as equally as possible without creating Round-Robin Mains (A, B, C, D Main format).
3. Racer with the largest lap total is the winner, regardless of which Main he/she races in.
4. All races regardless of format will be 4 minutes on, 3 minutes off .
5. All One Motor Open races will be run with the same race power as all other classes at the Nats.

GROUP 7/OPEN (UNLIMITED)

All *General Rules* also apply.

A. Motor

No restrictions on setup or armature.

B. Chassis

No restrictions.

C. Bodies

Must comply with *General Rules*; otherwise no restrictions.

D. Wheels, Tires, & Gears

Must comply with *General Rules*; otherwise no restrictions.