

INTERNATIONAL FEDERATION OF MODEL AUTO RACING



IFMAR 1/8th I.C. Powered 4WD GT INTRODUCTION to the CLASS

First Version February 25th, 2017.

Amended March 12th, 2017.

Amended February, 2018.

Amended April 2018.

Amended August 4th, 2018, due to GBS measurement correction

Amended July 2019, due to several rule explanations

Amended November 2019, typo's and Referees

Amended December 2020, typo's and Race officials to General part

Amended August 2021, due to postal vote changes

These first 4 pages are no rules, but guidelines and appointments between the blocs that have been used to make these rules.

This GT class has some limitations on bodies (must be recognisable cars, so we have GBS rules), tires and engine. It is not a standard class with a standard motor, still a racing class, but it has some limitations compared to 1/8th IC track for proto types cars.

IFMAR rules: IC Powered 1/8th Class 4WD GT.

To be read in conjunction with the General Rules for IFMAR World Championships.

The GT class is getting more and more popular all around the World, however we must avoid that this class is compared with the oldest and fastest class, 1/8th IC track, Proto type. This is an alternative for 1/8th Proto type with some restrictions, meaning it will never be as fast and those restrictions must be protected. Any change must be carefully overviewed, because it can affect the class in general.

This class is based on a few primary agreements:

- Basic design comes from an off-road car with driving axles
- Motors are limited, due to number of ports and timing/minimum Qualifying time.
- Cars must be recognized as cars you see on the road, using GBS rules, which not always give the best performance.

This is the complete set of rules after the experience of Buenos Aires/Homestead.

In Buenos Aires 99% of the drivers were using the same body. I think there were approx. 5 or 6 different versions used, but it all was the same "Lambo". However the way it is made does not reflect the class, so it is important to have bodies that are recognized. GBS need to be used as soon as possible to have a number of good looking bodies available, but we also realize that a number of bodies will not be according to these measurements now. Our GBS rules also mean not every GT car can be used.

I have enclosed some pictures from Bodies which in my opinion do represent the class:



I do not know if they are within GBS limits, but at least they look like a real GT body and there are more like this. If current GBS proposal is accepted it will mean that a number of bodies cannot be used for IFMAR events, however the stock can be sold and used within a year for other kind of races. It could also mean that some exotic GT cars never will make GBS in the future. The main difference is measurement E in the GBS, which has gone from 6mm to 12mm and the wording for this measurement.

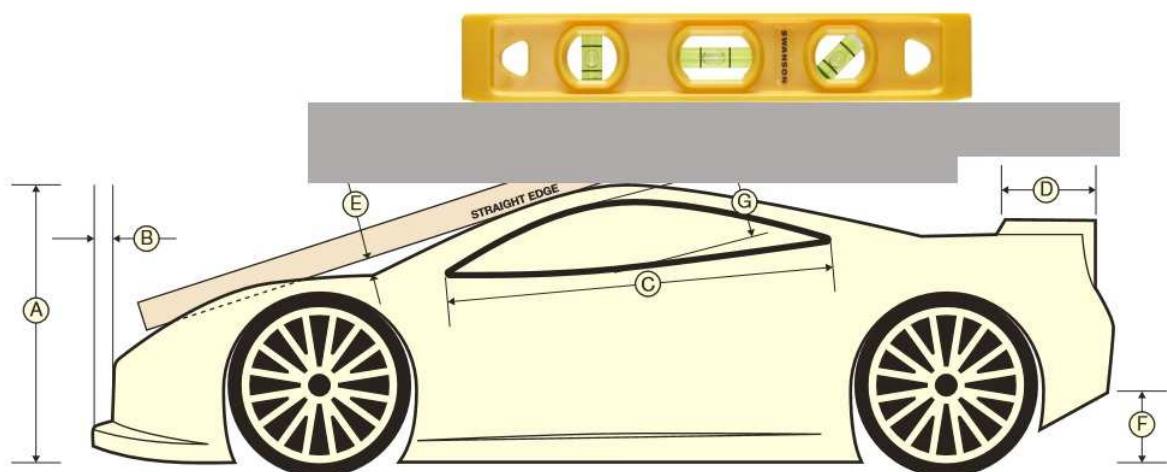
Currently there are a number of small rules for the engines. We want to control the RPM/running time, to avoid excessive tuning. We can do that by measuring exhaust port timing or we can just adapt the length of a heat to an acceptable time and forbid refuelling. Measuring timing is not easy, it means at least taking out the engine etc. Buenos Aires has proved that a minimum heat length of 7 minutes without refuelling helps to limit exhaust port timing. At the end 95% of the

drivers made the 7 minutes. We will investigate for a tool in the future for measuring the exhaust port timing, but will stick to the 7 minute rule for the moment. With your starting lap and finishing lap this means the engine must do at least 7 minutes and approx. 35-40 seconds on 150cc Controlling the RPM also means less drive shaft frictions and less wear. Do also not forget for the final 1 set of tires was available and used tires as replacement. This is only possible by controlling the engine power.



Morganti's tires after final.

As for height of the spoiler for Buenos Aires we used 10 mm above the rooftop (see drawing for measurement). This works well and is a good alternative with GBS style bodies. We also have seen that the majority of cars are using 7 body rest posts, of which 5 come thru the body and are secured with a clip.



The use of an INS box is mandatory, with or without an extra angled tube. With an height of 155mm minimum most INS boxes will fit under the body.

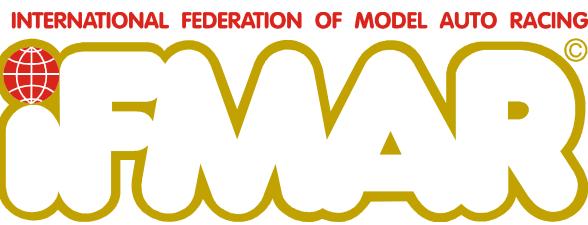
Looking at the tailpipe of the muffler there are a few solutions. Bring the muffler outside, meaning a manifold with a different angle, the use of a lexan "trompet" or simply nothing. Most of the faster drivers in BA used nothing and the oil inside the body was not causing that much problems. It is not as with a foam tire.

Other solutions with a "rubber" tube on the exhaust seems to make more noise (noise changes, but could only be the frequency) and have its effect on the adjustment. We will see some other solutions in the future and they need to be verified.



The clutch design needs some better description. Centax type is forbidden, however a design where the spring adjustment part makes an axial movement and the clutch shoes only move radial should be allowed. Standard 2, 3 or 4 shoes clutches like they use in off-road with aluminium clutch shoes are very vulnerable due to the weight of the car and need daily maintenance or replacement.





IFMAR 1/8th I.C. Powered 4WD GT TRACK RACING AND TECHNICAL RULES 2021

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IFMAR 2021

This set of rules for this class will consist of 5 parts:

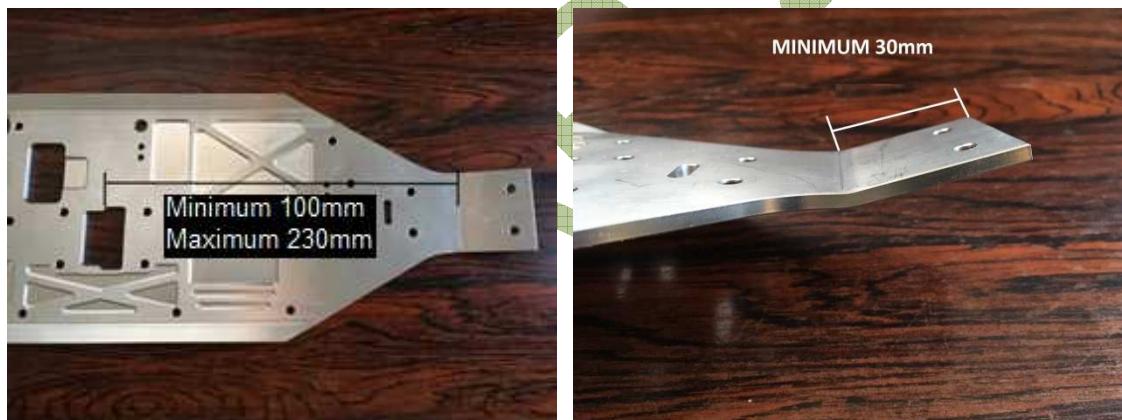
- Technical rules, describing the cars measurements, weight and technical features
- Motor rules, specifying motor volume and internal specs.
- Body rules, including GBS specifications
- Race format, specifying race rules, controlled fuel and tires
- General rules, dealing with organizing, detailed schedules, explanations
- Officials / Referees

1. TECHNICAL RULES

The basic principle for this class is the use of off-road cars and/or off-road parts, although we cannot prohibit the use of a single designed car for GT in the future.

The chassis must have a minimum kick-off of 5 degrees in front. No carbon fibre chassis allowed

The kick-off needs to have a minimum length of 30mm and lower suspension arms must be mounted on the kick-off. Kick off must start at a reference point from the middle point of the gearbox (or main gear), min 100mm / max 230mm.



Drive shafts must be used all around. **All driveshafts must be made of steel (no lightweight materials like Aluminium or Titanium).**

Brake System: Maximum 2 brake system in Central Drive Shaft / Central braking only on crown wheel (spur gear). Only standard mechanical brakes are permitted. Up to two brake discs are permitted anywhere on the centre driveshaft's. Brakes may not be located on the outboard axles.

One-ways, spools, locking "Torsion-type," or externally adjustable differentials are not permitted. Front & Rear geared Differentials can only be tuned with the use of silicone-based oils. No center differential allowed. Ball differentials not allowed/only gear differentials. Front and Rear differential gear ratios must be identical. Front or rear underdrive or overdrive is not permitted.

The rear differential must be "finger proof", so it must be at least partly covered in case of an open differential.

The final drive ratio front and rear must be the same.

Overall dimensions of the chassis:

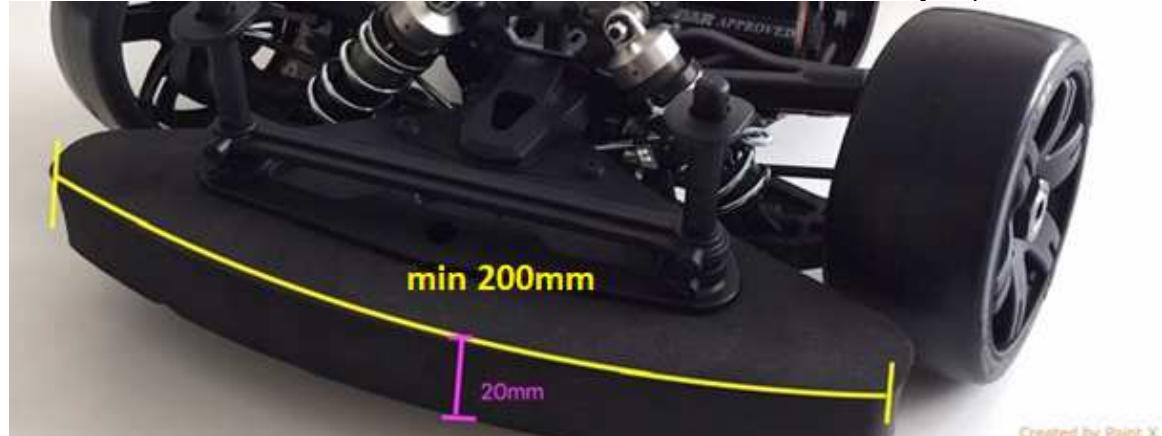
Height: minimum height 155,0mm with chassis plate on 20mm blocks.

Wheel base between 320-379mm

Length Maximum: 590mm

Width max 310,0mm, including wheels, axles and wheel-nuts.

The front of the car must be equipped with a bumper made from flexible "foam" material with all corners and edges rounded off. The contour of the bumper will follow the contour of the body. The bumper may not protrude in front of the body. Minimum dimensions 200 x 20mm (height). There should be minimum 20mm foam material available to absorb any impact.



The maximum capacity for the fuel tank is 150cc max, including all internal tubing

The Clutch must be a centrifugal type with a maximum of 4 shoes. No axial engagement of the shoes (No "Centax" Type clutches). Clutch must use radial centrifugal shoes only in conjunction with Std parallel sided cylindrical clutch bell similar design to the unit shown.



Direct Drive, i.e. single speed or maximum two speed gear box

Minimum weight in order to run with empty tank is 3500 grams.

2. MOTOR RULES

Engines allowed will be .21 or 3.5cc engines.

Maximum carburettor diameter is 7mm.

The motor shall be air cooled. Conical plugs allowed

Number of Ports. For IFMAR World Championships we propose the following number of ports: 3 Outlet ports, consisting of 1 (one) main Outlet port and 2 outlet booster ports, regardless the name and dimensions, every hole is to be considered as one of the 3 allowed.

A maximum of 5 inlet ports or booster ports. Any hole will be considered as one of the 5 allowed. (Needs some extra clarification to avoid 9 ports engines converted to 5 ports, waiting for EFRA proposal)

The INS box is mandatory.

Engines must be capable of running a heat of minimum 7 minutes on one tank of 150cc fuel to avoid excessive tuning. Exhaust port height max opening to be determined in the future.

Approved / registered or homologated 3 chamber mufflers according to the IFMAR list, including INS box list.

A pipe extension on the muffler tailpipe is allowed with the provision below. It is not allowed to use some kind of trumpet to direct the exhaust fumes outside for muffler outlet pipe, they make too much noise. Using a rubber stinger on the outlet pipe is OK, as long as the noise is not higher. Definition of Trumpet in this instance: Any addition to the pipe or body that increases the DB level as determined by race management.

3. BODY RULES

Bodies must be commercially available 1/8th scale GT1, GT2, Super GT, DTM, or V8 Supercar cars, 2 door GT bodies.

At least a body with a separate wing like in touring cars. Height of wing max. 10mm higher as rooftop. Measurement taken with chassis plate on the ground. The roof cannot be designed in such a way that ribs or vins are used to manipulate the height. The measurement of the height of the car is done on the highest point of the rooftop. Excluding any air intake scoops, ridges or any other extention from the actual true rooftop. Maximum width body 317mm. Wing compared to body and wing overhang, same as sedan 1/10th class, max 20mm. Wing can be unpainted/clear.

Wing width max 310 mm, including side plates, but never wider as the rear of the body.

Wing chord max 80 mm. Wing endplates maximum 40 x 80mm.

The "body must be mounted to the sprung mass of the car at front and rear". So, no mounting on the suspension uprights.

The body must have visible windows, body panel and trim markings, and the windows must be mostly clear. Some intrusion for creative painting purposes and tinting is permitted, but the windows must be transparent. Bodies must have headlights and grill details. To avoid the use of lightweight bodies there is a minimum weight for a body including wing and paint/stickers). That minimum weight is 235-250 grams (final decision beginning of 2022, after checking approved bodies on the new list). Adding weight to the bottom perimeter of the body is not allowed.

1 piece body moulding to avoid internal aerodynamics. A diffuser mounted on the rear of the chassis is allowed. It must be not wider as the inner measurement of the wheels and may stick out of the body at the rear with a maximum of 20mm (same as wing overhang). The diffuser must be made of flexible material without any sharp edges

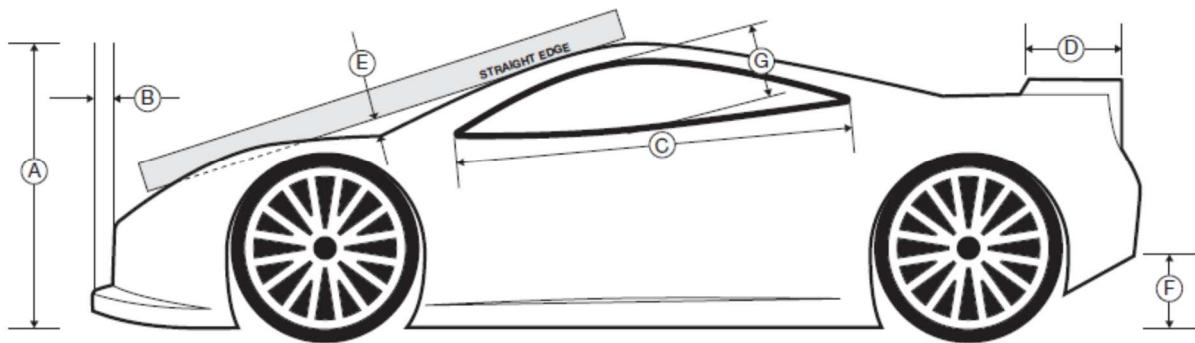
No internal body supports / stiffeners / braces allowed to avoid lightweight bodies with internal modifications and add-ons, excluding reinforcement of the wheel arches and back boot lit is allowed. The body must rest on a maximum of 7 posts, of which 5 can protrude outside the bodies. Bodies must be made from Lexan with a minimum thickness of 1mm. The wing must rest on maximum 3 body posts which are not wider as 50x 20 mm each.

The body must be made from an existing car design, for which the name must be mentioned on the request for homologation.. After been approved the name of the body is free to avoid license fees etc.

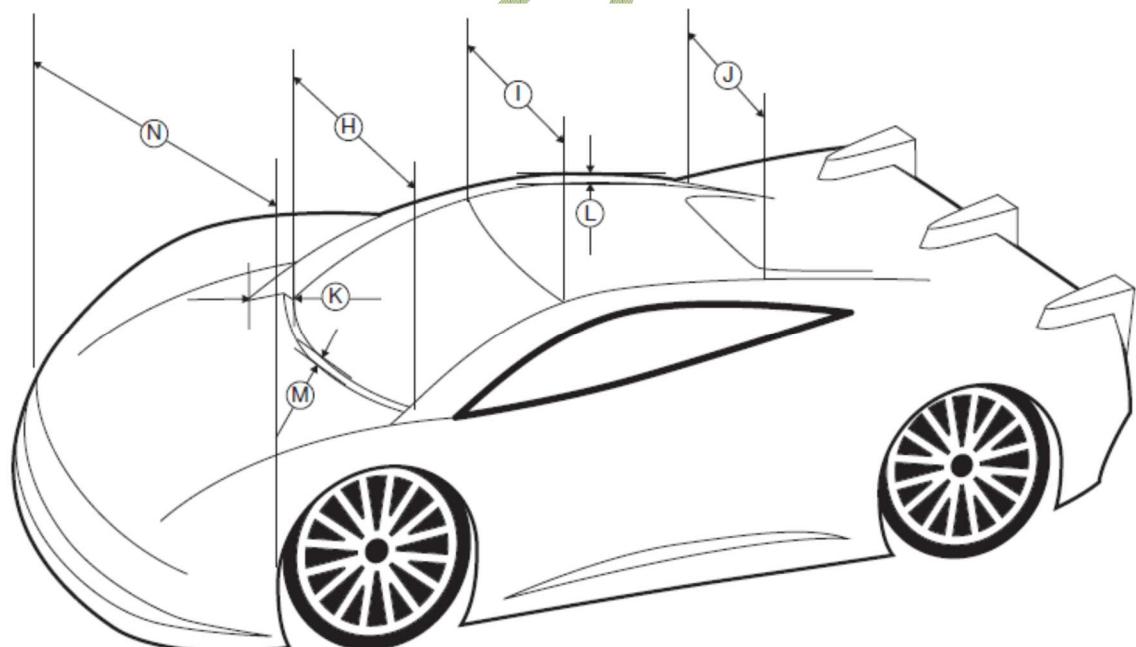
Bodies must be within the GBS dimensions by IFMAR. See drawings enclosed.

Concours d'Elegance. This class is ideally suited for such a Concourse, with many original painting schemes available. All bodies used for official racing must be painted/stickered properly. Preferably a minimum of 2 painted/sprayed colours. Bodies used in the Concours must

be used in the official racing. Only in case the body is damaged the driver can change after agreement with the race director.



- A) Minimum 155,0mm (with chassis on 20mm blocs),
- B) Maximum 15 mm depth
- C) Minimum 170mm
- D) Maximum 3 posts 50mm x 20 mm
- E) Minimum 12,0mm, gap between straight edge bottom and hood plane where it meets windshield.
- F) Maximum 75,0mm (with chassis on 20mm blocs)
- G) Minimum 36mm



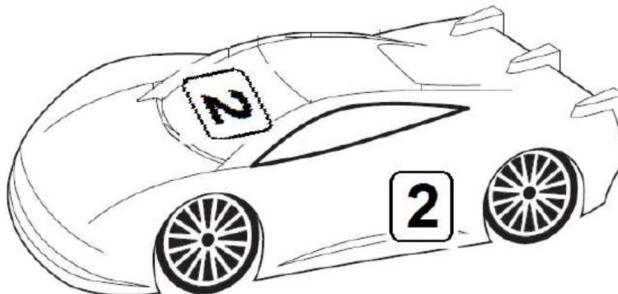
- H) Minimum 200mm
- I) Minimum 145mm
- J) Minimum 130mm (top inside edge of C-pillar)
- K) Maximum 8mm depth of A-pillar above the windshield surface plane
- L) Maximum 5mm height of outer roof rail above the roof surface plane
- M) Maximum 4mm stagger between hood and windshield
- N) Maximum 317mm, minimum 300mm overall width

3.1. NUMBERING OF CARS

Cars will be numbered 1 to 10 or 1-12 in each heat. The car must have 3 numbers. Only the numbers supplied by the organizer will be used on the cars. They may not be cut out to eliminate the background. 2 Numbers on the sides in front of the rear wheels, 1 in front on the hood or window

These numbers will change during the qualifying heats (after re-seeding).

The organiser will provide other numbers for altered heats and for sub-finals and final.



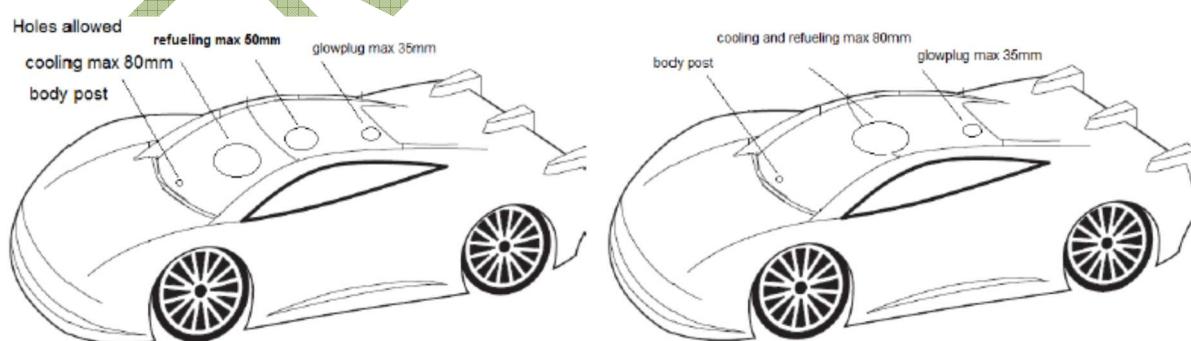
3.2. NUMBERING OF THE BODY/WING

The registration number (1-150/180, with number 1 being the reigning world champion) is put on the body/wing. It is the same for the entire competition.

The numbers provided by the organiser must be attached to the right side of the body/wing, the other side being reserved for the competitor's national flag. Every competitor may have his national flag on the left side of the body/wing of his car (when looking from the rear).

3.3. HOLES IN THE BODY:

Holes in the body for fuel-gun, fuel tank opener, aerial, glow-plug, carburettor access and exhaust. Rear and side windows may be removed. Maximum height of 75mm cut-out at rear on 20mm blocks. One opening may be made in the front windscreen with a maximum dimension of 80.0mm in any direction for refuelling and/or engine cooling. An additional hole for refuelling in the roof of 50mm is allowed and 35mm for the glow plug. Minimum distance between holes is 5mm. See drawings



4. RACE FORMAT:

7 Days total. Start Sunday, finished Saturday. Saturday afternoon till Monday evening registration.

Sunday, IPD, 1-day, free practice, no refuelling allowed in the pit lane. Maximum number of drivers on the rostrum is limited to 12, unless the track and rostrum are suitable for more drivers (after consultation with IFMAR).

Definition: International Practice Day (IPD).

Drivers who have not driven on the track for 12 Months prior, this may include out of town drivers from the host country who have not driven on the track

The host track has the ability to run events as they wish open to all drivers up to 6 days before registration day. Any drivers who have run on the track either during an event or attending a private practice session cannot use the international practice sessions.

The host track must keep a register of all drivers who use the track for preceding year, they need only register once.

The punishment for drivers found to be contravening the rule or the spirit of the rule will be determined by IFMAR and the host bloc of the person in question.

This is due to the possibility we may find out long after the event that there has been a contravening of the rule and may need to be addressed retrospectively.

IPD will be open practice, unless the number of drivers is too high and controlling is needed. IFMAR has the right to implement controls or restrict track time if it deems controls are necessary for the benefit of all drivers.

This is due to the possibility we may find out long after the event that there has been a contravening of the rule and may need to be addressed retrospectively.

Monday, General practice for all for 1 day. Depending on the number of drivers 4 till 5 rounds with maximum 12 drivers on the rostrum

Tuesday, Timed practice for all 1 day + opening ceremony. Depending on the number of drivers 4 rounds with 3 best consecutive laps as result. Each round you will get points. With 4 rounds 2 rounds to count for seeding. Fastest 10 drivers will be placed in the last heat, etc. Point system in use for seeding the heats after timed practice. 2 results out of 4 rounds

Wednesday/Thursday, 2 Days of Qualifying, heats 7 minutes duration, no refuelling, or 14 minutes with one time refuelling. This 7 minutes as minimum should also help avoiding excessive engines tuning. During all finals no refuelling before the first 7 minutes mark.

For 150 drivers, 15 heats. Start R1 0800-1100, R2 1100-1400, R3 1430-1730.

Second day R4 0800-1100, R5 1100-1400, R6 1430-1730, Superpole

TQ in points of the Qualifying rounds goes straight into the main final. Number 2 till 5 will run Super pole for an extra place into the main final.

Qualifying schedule order for round 1 till 6					
Wednesday		Thursday			
Round 1	Round 2	Round 3	Round 4	Round 5	Round 6
Heat 1	Heat 1	Heat 1	Heat 1	Heat 1	Heat 1
Heat 2	Heat 2	Heat 2	Heat 2	Heat 2	Heat 2
Heat 3	Heat 3	Heat 3	Heat 3	Heat 3	Heat 3
Heat 4	Heat 4	Heat 4	Heat 4	Heat 4	Heat 4
Heat 5	Heat 5	Heat 5	Heat 5	Heat 5	Heat 5
Heat 6	Heat 6	Heat 6	Heat 6	Heat 6	Heat 6
Heat 7	Heat 7	Heat 7	Heat 7	Heat 7	Heat 7
Heat 8	Heat 8	Heat 8	Heat 8	Heat 8	Heat 8
Heat 9	Heat 9	Heat 9	Heat 9	Heat 9	Heat 9
Heat 10	Heat 10	Heat 10	Heat 10	Heat 10	Heat 10

Heat 11					
Heat 12					
Heat 13					
Heat 14					
Heat 15					

Friday/Saturday, Christmas tree finals, 20 minutes for subfinals, 30 minutes for semi-finals and 60 minutes for main final.

Depending on track layout 10 or 12 drivers in the final.

There will be six (6) qualifying rounds. The length of the Heat is 7 minutes or 14 minutes and will depend on number of drivers and time available between sunrise and sun-set. For each round drivers will get points, based on number of laps and time of finishing lap.

Six (6) rounds of qualifying heats will be run as follows:

Wednesday approx. 08.00- 18.00, depending on sun-rise: Rounds 1, 2 and 3

Thursday, Rounds 4,5 and 6

Schedule every day is heat 1-15, 1-15, 1-15. IFMAR reserve the right to change the order.

The heat order must be made clear at drivers briefing.

In each round, drivers will score points based on the laps and times achieved. The number of points awarded to the best driver will be equal to 0, second position 2, points, 3rd position 3 points etc. *Up to last position one by one.*

In every round, in case of a tie, the points will be equally awarded to each driver, and the first driver not to tie, will receive one point less per tie.

For example:

1st driver will score 0 points

2nd driver will score 2 points

3rd driver will score 3 points

4th driver will score 4 points

5th driver 7 laps, 10:01:00 will score 5 points TIE

6th driver 7 laps, 10:01:00 will score 5 points TIE

7th driver 7 laps, 10:01:00 will score 5 points TIE

8th driver 7 laps, 10:10:00 will score 8 points

In the event of a tied position for the final Qualifying positions when 'best' scores are added together, only the scores (and laps/times) from counting Rounds added will be used to decide the tie. The discarded Round scores (and laps/times) will not be used to decide any tie.

The driver with the lowest individual points within the Round scores added will be awarded the tie: (eg. $1+2+3=6$ beats $2+2+2=6$).

If the tie continues, the next best individual points will be considered: (eg. $1+1+4=6$ beats $1+2+3=6$).

If a comparison of points fails to break the tie, then the laps & times from each drivers lowest point scoring Round will be compared. The driver with the fastest laps & time from their lowest point scoring **Round will be** awarded the tie. In the unlikely event of these times being equal, then the second best points scoring Round times will be used.

If a driver does not score a time (or has his time disqualified) in any Round, the driver scores points equal to 500.

Overall Qualifying Positions:

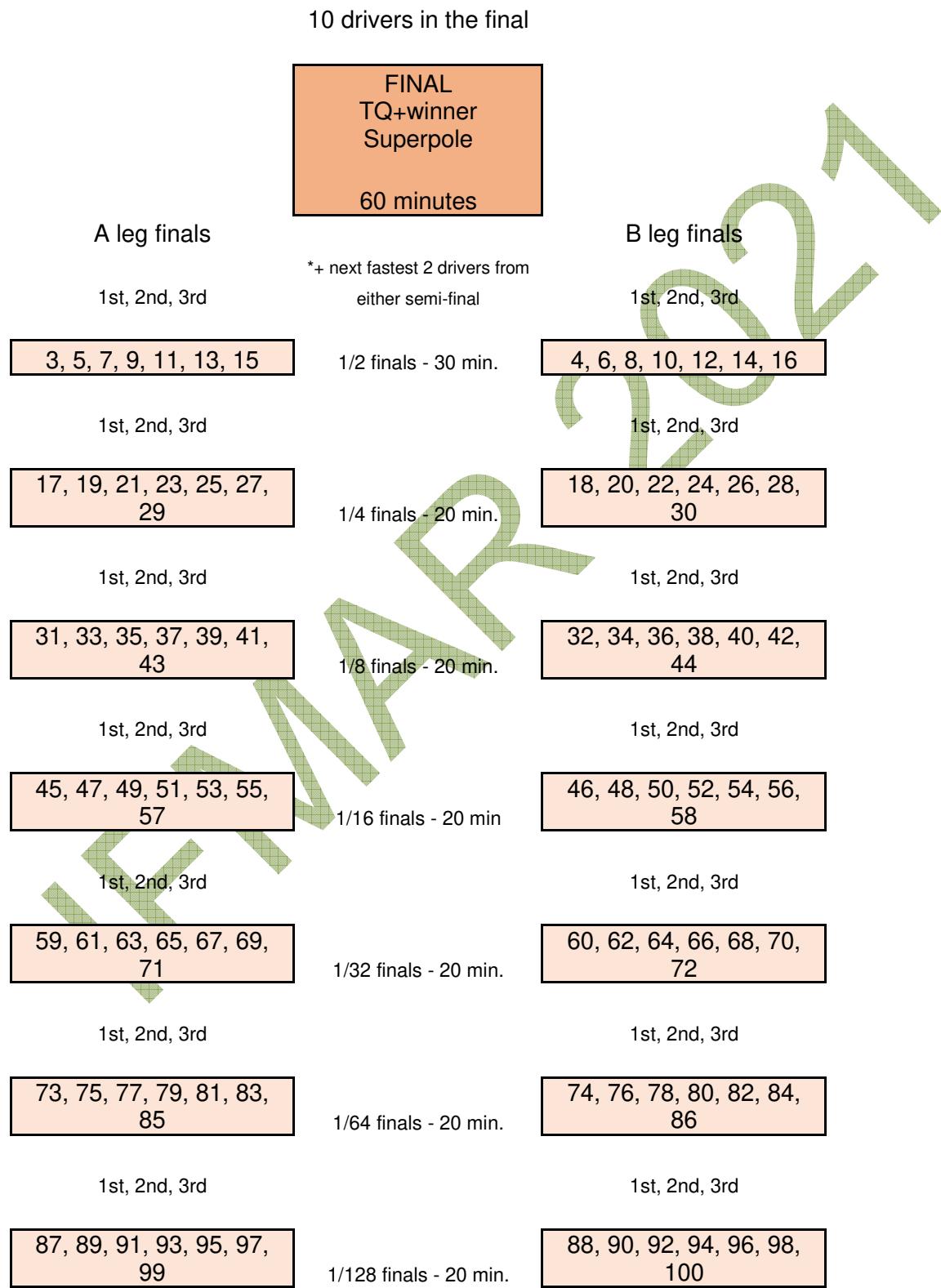
Out of six (6) Qualifying Rounds: each drivers best three (3) point scores (lowest) will be added to count for the Overall Ranking.

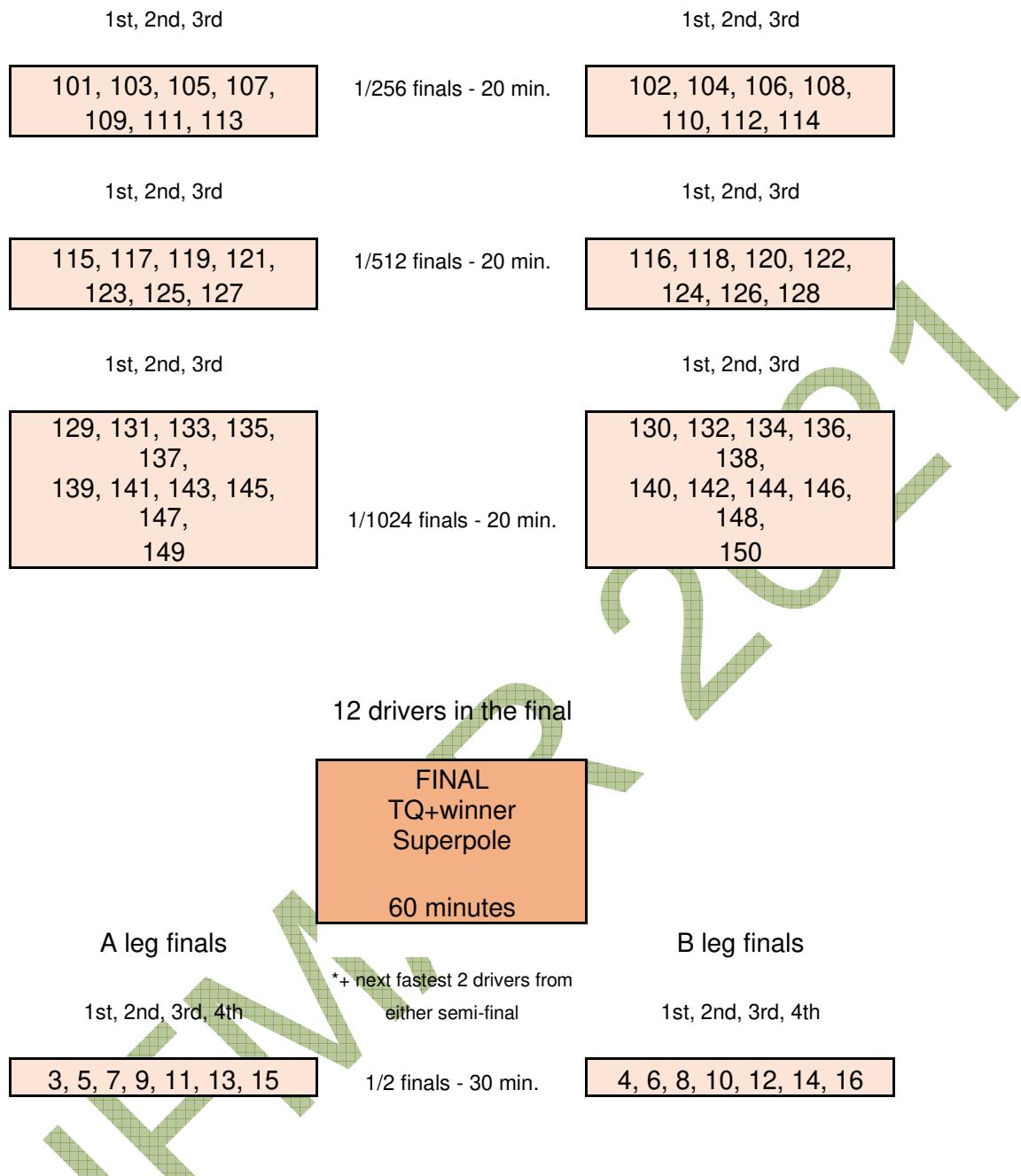
Out of five (5) Qualifying Rounds: each drivers best three (3) point scores (lowest) will be added to count for the Overall Ranking.

Out of four or three (4/3) Qualifying Rounds: each drivers best two (2) point scores (lowest) will be added to count for the Overall Ranking.

Out of two or one (2/1) Qualifying Rounds: each drivers best one (1) point score (lowest) will be used to count for the Overall Ranking.
All drivers will be entitled to a sub-final.

Friday/Saturday, Christmas tree finals, 2 Days for the finals
Depending on track layout 10 or 12 drivers in the final





The car numbers for the eight (8) drivers who move up from the semi-finals to the main final are based on the results achieved out of both semi-finals, taking into account the laps and times only.

4.1. TIRE SPECIFICATIONS:

Controlled tires for all IFMAR events for GT class.

1 brand (IFMAR and the organizer shall open a bidding pool for manufacturers). The commercial part of the controlled tire is an agreement between organizer and manufacturer. IFMAR only to be informed because of the profit on a set. Once chosen for an event same manufacturer is not allowed to supply tires for the next IFMAR event.

Tires for front and rear are the same dimensions. The tires must be made of rubber, no foam tires. An insert is allowed.

Tires must be limited per driver for practice and race with only 1 extra for the main final.

Tires must therefore be impounded, 1 box per driver.

Holes in the rubber tires are allowed, so as the rim. Will be better for temperature. No additives on the tires allowed under any circumstances.

Tires width, max 45mm

Rim measurement, spoke design, see picture. No dish like rims.

Rim Off set positive, 7 mm, with a tolerance of +/- 1mm because the use of controlled tires.

The rims must have a minimum 75mm and maximum 85mm diameter.

The minimum diameter of a tire must have at any point in the race will be 98mm and maximum is 102mm. One compound to be used for the entire event under dry conditions and one specific different set in case of rain.

Wheels must use a 17mm hex hub consistent with the dimensions and function of the hubs used in 1/8 off road racing. The wheel must be affixed by a 17mm wheel nut, threaded on to the hex hub. Quick change mechanisms are not permitted.

Number of tires for an IFMAR event must be specified and will depend on track layout and tire wear.

F.i. 1 sets for Practice, 2 sets for Qualifying+super-pole, 1 set extra for subfinals, 1 set extra for main final. All used tires available for substitution. Tires will be marked with the drivers registration number.



4.2. FUEL:

The Event is organized with controlled fuel. Fuel or fuels must be *commercially available*. Fuel may only contain methanol (methyl alcohol) CAS number 67-56-1, and/or Ethanol (Ethyl Alcohol) CAS number 64-17-5, lubricating oil, a small content of anti-corrosion chemicals and maximum 16% of nitro methane (Cas number 75-52-5) in volume. The specific gravity of the mixture may not be heavier than 0.87 grams/cc at 20°C and standard atmospheric pressure. Measurement will be done with a nitromax 16% in the pit lane

and/or anywhere inside the venue. Any fuel detected heavier than 0.87 or containing more nitro as specified will mean that the driver will have the result deleted from the heat or final where the fuel was found to be illegal.

The following additives are strictly prohibited; Hydrazine, Hydrogen Peroxide, Toluene, Propylene Oxide, *but not restricted to other harmful/dangerous products. IFMAR has the right to take samples for analysing and penalties can be given to manufacturers that have used other ingredients or more nitro as mentioned in the rules.*

Fuel suppliers are invited to make a submission to the event host for supply. Each supplier must send a (safety)datasheet with the complete ingredients to IFMAR 2 months before the event. More than one brand of fuel manufacturer up to a maximum of 3 brands will be allowed to sponsor an IFMAR 1/8th I.C. GT On-road World Championship event. If more than one brand of fuel is used, competitors must state their preferences on a selection form at least 6 weeks before the event. Switching to another brand during the event is only possible when there is enough fuel available. *Switching is only possible during Qualifying.* Every fuel manufacturer that is willing to sponsor an event must be able to supply fuel for the number of drivers that choose that brand + 15%. (The 15% extra is for drivers changing brand during the event).

No fuel brand/manufacturer can ask or claim for exclusivity. The organizer should try everything possible to supply at least 2 different brands. Safety storage for the different Official fuel suppliers must be secured. The different brands of official fuel must be available within the controlled area in cans of no more than 5 litres per brand. Fuel bottles must be supplied by the fuel manufacturers. There are no restrictions for a manufacturer in case of a next event.

Fuel supply either by organizer or the suppliers. The best offer will prevail. Deadlines will be 6 months (recommendations) and 3 months (decision)

In case no manufacturer is willing to sponsor an event than two brands of fuel will be chosen by the IFMAR I.C. Executive together with the race organiser.

As for any fuel in general: A full safety data information sheet must be supplied on request with a break down of components, (Not necessarily brand names, i.e. type of oil castor, not the brand.)

IFMAR has the right to check and test fuels for compliance by any method deemed appropriate and may require samples prior to event for analysis.

Suppliers are responsible for the shipping and delivery to the event in accordance with the local laws pertaining to the shipping and handling of such goods.

The event organizer is responsible for all aspects of the safe storage, handling and distribution of the fuel at the event.

Race organizer recommends three (3) types of fuel in order of preference). The race organiser has to forward the recommendations to the IFMAR I.C. Section Chairman six (6) months before the event. The final decision will be made three (3) months before the event by a majority vote of the IFMAR I.C. Executive and all Blocs will be notified of the decision.

4.3. PROHIBITED / NOT ALLOWED:

Use of one-way bearings, except for the 1st gear of a 2-speed transmission.

Belts.

Extra Body support struts for lightweight bodies, except those mentioned in the rules.

The use of traction control devices, active suspension devices and any steering control aided by gyroscopes/"G"-force sensors is strictly forbidden.

4-wheel brakes. Independent controlled braking on the front wheels is not allowed.

Hydraulic braking systems.

More than 2-speed transmissions.

Quick change wheel systems are not allowed, or the use of electric, spring or flywheel-based tools to change wheels.

Body extenders or wheel flares.

Tire-warmers.

It is not allowed to use any electronic devices with the exception of:

Two radio channels of the receiver which will be used to operate steering, throttle and brakes.

No more than two (2) servos.

A transponder for official counting.

An electronic failsafe.

Voltage regulator and/or battery level indicator.

RADIO COMMUNICATION IS ALLOWED BETWEEN DRIVER AND MECHANIC.

a: Only designated public service bands with a maximum power output of 500 mW are allowed.

b: Radio communication can only be used by the driver their pit crew, only while their driver is on the drivers' rostrum for the duration of the race.

c: A single ear piece or one sided head set type that is not audible to others and does not reduce the ability to hear the referees' calls must be used.

d: All equipment must comply with the local & country radio communications rules.

e: Not allowed, any 2.4 GHz radio equipment.

f: Radio equipment cannot be used at any other time within or around the complex.

g: Race management has the right to test, decline or withdraw the use of any and all equipment without question.

Note: Rules, b, c & f, do not apply to race management.

5. General rules for organizing IC powered 1/8th Gt Class:

IC powered 1/8th Class GT will be run during odd years, in the same year as 1/8th IC track.

The World Championship will be run over a period of seven (7) days excluding a spare day.

Depending on the number of drivers we have the following number of allocations

Places will be initially allocated as follows:			
Entries	100	150	180
EFRA	20	30	35
FAMAR	20	30	35
FEMCA	20	30	35
ROAR	20	30	35
Host bloc	10	10	10
IFMAR	10	20	30

After distribution of the IFMAR places, the remaining places are to be distributed by the relevant IFMAR Section Chairman on a fair and equitable basis according to any extra requirements of the Blocs.

Depending on sun-set and sun-rise racing days will be 10-12 hours long, with a lunchbreak halfway if weather permits.

5.1. EVENT SCHEDULE:

Schedule and number of heat/rounds for practice can be changed, depending on number of drivers after or with consultation from IFMAR. The track surface should be prepared so that good quality practice will be obtained when practice commences. This may be achieved by a spraying and/or cleaning of the track surface, as required.

-----	Track open
Friday	Track open
Saturday to Saturday	The track will be closed for 1 week.
Saturday	Track closed, registration 09.00-18.00 hours
Sunday	(IPD) Registration from 08.00 till 18.00
	Track open from 08.00-18.00 heats of max 15 registered drivers.
	Monday, controlled practice, all drivers 10 heats/15 drivers x 6, seeding end of the day based on 3 consecutive laps
	Tuesday, timed practice, up to 15 heats/10 drivers x 4, seeding based on 3 best consecutive laps. Heat length may vary depending on number of drivers between 5 and 10 minutes. For each round you get points (0 for 1 st place, etc.) 2 out of 4 to count for seeding for Qualifying. IFMAR has the right to make adjustments to the seeding if they feel that this is needed due to unforeseen. Opening Ceremony.
Wednesday	3 rounds of qualifying, qualifying is between 7/14 minutes
Thursday	3 rounds of qualifying, qualifying is between 7/14 minutes
Friday	Lower finals, 20 minutes
Saturday	1/8 1/4 1/2 final, prize giving top 3 + banquet/prize giving top 24
Sunday	Spare day due to special circumstances on Saturday + prize giving

The car numbers for the drivers who move up from the semi-finals to the main final are based on the results achieved out of both semi-finals, taking into account the laps and times only.

Timetable Friday:

Lower finals from 1/1024 to 1/8 to be run over 20 minutes.

Start time	B leg Finals		Start time	A leg Finals
09:00	1/1024 B		09:30	1/1024 A
10:00	1/512 B		10:30	1/512 A
11:00	1/256 B		11:30	1/256 A
12:00	1/128 B		12:30	1/128 A
13:00 – 14:00 LUNCHBREAK				
14:00	1/64 B		14:30	1/64 A
15:00	1/32 B		15:30	1/32 A
16:00	1/16 B		16:30	1/16 A

Saturday: 1/8 & 1/4 finals to be run over 20 minutes.

Start time	B leg Final		Start time	A leg Final
09:00	1/8 B		09:30	1/8 A
10:00	1/4 B		10:30	1/4 A

11:00 – 11:30 Practice for the TQ+super pole winner, 20 minutes max.

11:30 – 12:00 Mandatory press conference or media presentation TQ/Super pole

12:00 - 13:00 Lunchbreak

1/2 finals to be run over maximum 30 minutes.

Start time	B leg Final		Start time	A leg Final
13:00	1/2 B		13:45	1/2 A

CHAMPIONSHIP FINAL TO BE RUN OVER ONE (1) HOUR

15.30 Drivers presentation to the public

15.45 Warm-up Practice

15.58 Trial start

16.00 Start

17.00 End of the race

17.10 Unofficial publication of result

17.30 End of protest time

17.40 Prize ceremony on the track

5.2. TROPHHEES:

Trophies must be available for all drivers in the main final, marked 1st till 10 (12) and for all drivers in the semi's, marked 11 or 13 till 22. A picture showing the trophies' must be send to the IC chairman approx. 3 months before the event.

5.3. TEAM MANAGERS / MEETING:

See General rules.

5.4. TECHNICAL INSPECTION:

Inspection will be on Saturday, Sunday and Monday from 08.00 until 18.30. A

Schedule will be used for checking cars. Drivers or mechanics have to present their cars with bodies and empty tanks.

Only vehicles which conform to all regulations will be accepted for racing.

The cars will be examined and, if the car conforms to the rules, the chassis will be marked. At any time, the Race Director may ask the competitors to present their cars to the Technical Inspector.

Random inspection will occur on the start line for numbers, tires, wings and chassis.

No race will be delayed because of non-compliance by a competitor. At the completion of each heat all cars in that heat, whether they finished or not, must be presented for technical inspection. Cars which are not presented for technical inspection at the end of a heat will be disqualified from that heat. Any race damage will be taken into account. At the end of finals, all cars will be impounded and may be inspected for engine size, fuel tank capacity, etc

The use of a non-homologated, modified homologated muffler will constitute disqualification from the event. The disqualified driver will be placed on the last position of the final qualifying results and/or the last position of the final positions' results and he will be noted as a disqualification.

Any technical infringement, other than those concerning engine, fuel tank, weight and muffler will cause disqualification from that heat or final and the disqualified driver's position will be shown as the last position in that heat or final.

All cars must be fitted with a clutch, a braking system and a homologated exhaust pipe.

The engine and fuel tank may be checked at any time.

The volume of the fuel tank will include all fuel piping and filters up to the carburetor. Only one car per driver will be accepted

Rain situation. Rounds must be finished under the same conditions, however a complete wet round will be used if the rain is there for a longer period. When it starts raining during any final the race will continue. Only in case of thunder and lightning and/or heavy winds the race director can decide to stop the race.

5.5. OPENING CEREMONY:

An opening ceremony will take place on Tuesday at 18.30. Competitors will participate in a welcoming procession. Each national team is asked to wear similar shirts. A flag and sign bearing the name of each country will be provided by the organiser for each team. At the opening ceremony a Concourse d' Elegance will be held in one category. The category will be the best "paint job". There will be one (1) trophy for the winner.

5.6. RACE PACKAGE:

During registration, every driver will be given an envelope which includes: A detailed schedule including starting times of each heat, 3 sets of numbers for the car, 3 sets of numbers for the wing, 1 number for the transmitter, 1 badge for the driver which allows him/her pit access and 1 badge for the mechanic. Furthermore must 1 badge for the country's Team Manager also be issued. Also included in the package there must be a sketch showing the correct positioning of the car numbers on the body shell.

Two badges will be given to each competitor, blue for the driver, yellow for the mechanic. The driver's badge must show his passport-size photograph. The designated Team Manager from each country will receive an orange badge upon registration of his drivers.

5.7. ACCESS TO PITS AND TRACK

Orange badges/team managers:	pits, staging area, special viewing area
Blue badges/drivers:	drivers' stand, pits, staging area
Yellow badges/mechanics:	pits, staging area
Green badges/Press:	pits, staging area, special viewing area
Red badges/race officials:	all areas
Grey badges/IFMAR officials:	all areas

5.8. PITS:

Places are allocated for the duration of the World Championship. Places are grouped by country and marked by sign plates. Pits are covered. Every competitor will have a 60 x 120 cm (2 x 4 feet) table space.

Pits are equipped with either: 120 V/60 or 220 V/50 AC.
12 V DC (limited) in starting area

5.9. DISPLAY / DISTRIBUTION OF RESULTS:

The display of the positions in a specific heat or final will be done in the pits and in the Team Managers'/Press stand.

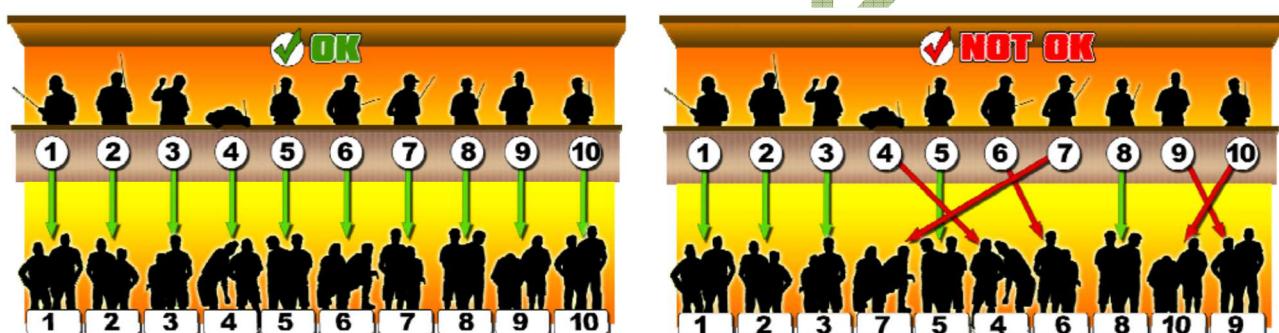
At the end of each heat (every 15 minutes) or of the finals, a copy of each competitor's lap sheet will be available for checking and information. Copies of the time-lap sheets of all cars of the heat or the final will be displayed with the result.

At the end of each round, after the 15th heat, results of the general classification will be available.

5.10. ROSTRUM:

Drivers rostrum, pit lane.

Mechanics must at all times pit in the position corresponding to the driver. i.e. mechanics of # (1) on the stand must use pit position 1. See drawing.



During finals, position on the drivers stand will be selected by drivers in order of qualifying position, i.e. No. 1 qualifier has first choice, No. 2 qualifier has second choice, etc.

For all heats and Finals two (2) mechanics are allowed per car. That can be the Mechanic and a team manager or 2 mechanics but a maximum of 2 people.

The only exception to this is an interpreter may be allowed only if there is sufficient space available and neither the driver nor their pit assistants speak enough English as to be able to understand the referee(s) or race control. This person may not assist in any other way, and must seek approval pre-approval from the race director.

5.11. PADDOCK AREA:

Places are allocated for the duration of the World Championship. Places are grouped by country and marked by sign plates. Pits are covered. Every competitor will have a 60 x 120 cm (2 x 4 feet) table space. Pits are equipped with either: 120 V/60 or 220 V/50 AC.

Track specs

5.12. MARSHALLING:

The Organizer is required to supply marshals for all finals. If the organizer cannot supply marshals for qualifying then the drivers will perform the marshalling.

If the drivers are required to marshal then they will marshal the heat following their racing heat. Drivers in the final heat of a group will marshal the first heat of that group. Substitutes are not allowed except if the driver is physically unable and authorized by the race director.

Marshals who are not in position one minute prior to the start of the heat will be penalized by the loss of their best qualifying time.

The organizer must provide marshals for vacant positions for which there are no available drivers.

The organizer must supply gloves for use by the marshals at their discretion. All marshals must wear close-toe shoes.

The organizer must provide running marshals to allow the proper marshals to remain at their positions. Running marshals must return disabled cars to the pit area. Only marshals and authorized personnel are allowed on the track while racing is in progress.

5.13. FLAGS:

Start – green flag or national flag

Finish – chequered flag for final only

Blue – The car which is blue flagged must allow the car behind him to pass.

Yellow – Danger on the track - slow down

Black & white – Official warning to the car which is flagged (diagonal)

Black – The car in question must stop immediately in the pits

Green – Track open

Red – Track closed. All cars must stop immediately.

The black and white diagonal and the blue flags are recommended but are not compulsory.

All flags are under the direction of the Race Director who can delegate and authorize their use.

6. RACE-OFFICIALS / REFEREES:

See IFMAR general Rules

6.3 PROTEST AGAINST A COMPETITOR OR ORGANIZER:

Protest must be entered by the Team Manager, in writing, in English language, within 10 minutes after the display of the result or after the incident it concerns, with a deposit of \$50 U.S. or equivalent. The time of display of the result will be written on the result sheet. The deposit is forfeited if the protest is not upheld and the deposit is returned if protest is justified. Protests may be handed to the Race Director or an IFMAR Official. Protests are processed by the Race Director and, if necessary, by the

Jury. Appeal to IFMAR may be made. IFMAR is not obliged to handle such appeal.

Deposit returned if protest is upheld.

6.4 PENALTIES and SANCTIONS:

During finals, participants will be allowed to change the bodies of the car without the authorization of the Race Director, providing the bodies are of the same type. In the event of a different body being fitted to the car, the Race Director must give his permission before the participant re-enters the race.

Any illegal modification or change made to the car which is found during the technical inspection at the end of the race will automatically entail disqualification of the participant.

EXCEPTIONS: Tolerances allowed in technical inspection for fuel tanks

Any damage incurred during a heat or final will not entail a forced stop or disqualification of the participant except in the following cases:

- loss of a body (the spoiler does not count as part of the body)

- loss of the silencer or its ability to silence the engine
- a car which becomes dangerous or un-drive able.

The car in question may re-start after the repairs have been affected.

Any car which, by the fault of another driver, is damaged or obstructed during a heat or final cannot, under any circumstances, be allowed to re-run in another heat.

All participants must strictly observe the instructions given by the Race Director, Jury and Referees. The bad sportsmanship and behavior of any competitor, even outside the official race meeting, which could injure the image and promotion of the sport, may become the object of an official, national or international sanction.

6.5 IN GENERAL:

See also some of the general rules in 1/8th with reference to Track Specifications, (IFMAR)-officials, penalties, lap counting requirements, monitors in pit and pit lane etc.

7. BASIC SET OF ELECTRICAL RULES.

A Basic set of electric rules to be used for a World-cup event as supporting class.

Such a supporting class can be used to have more drivers coming to the event. An electric class has some advantages, compared to IC, especially for new drivers. In the IFMAR General rules there are some rules mentioned how to have such a class implemented. It also means some extra rules on the technical part. To avoid over tuning, high temperatures and trying to go as fast as IC the following basic rules will apply;

Brushless motors with the following maximum dimensions:

Diameter: max. 44 mm

Length: max. 75 mm

Motors with and without sensor are allowed.

4S lipo battery: Any kind of battery will be allowed as long as it is commercially available.

Maximum 4S (4 elements in series) will be allowed in A single pack or in two packs of equal characteristics of 7.40 V. The brand, voltage, Manufacturer, etc. must be visible on each battery, not valid those batteries that have lost the original manufacturer's labels/instructions. Mandatory HARDCASE. The maximum voltage is 16.80 Volt at the start of the race. The batteries and Chargers must have an equalizer cable. The Chargers must have a program Specific for LIPO/LIFE load, i.e. CC/CV (constant current, voltage cut), with Cut according to the specifications of the IFMAR regulation and the load must be made with the cable Equalizer. The maximum permissible current charging is 12.0 A and the maximum permissible current discharge is 20.0 A. It is mandatory to use a safety bag for the batteries during charging.

The controller (ESC) is optional. It is not allowed to set the reverse Gear. The maximum temperature of the battery should not exceed 55 degrees after the run.

In GT EP cars is not allowed to cut the front windshield. The antenna hole (10 mm) and side windows can be cut out. Rear window can be removed. Additional cooling holes in the front where normally is the radiator of the respective body are allowed. If the dimensions of a single hole is bigger than 10 x 12 mm the area needs to be covered from inside with a corresponding grid.

The electrical / electronic equipment consists of the battery (LiPo hardcase), controller (ESC) and a servo for steering. Electronic driving aids such as ESP and ABS are prohibited. Telemetry is allowed as long as they function is part of the remote control and the receiver, as well as the

associated sensors. This applies also to passive devices for recording data, and video that have no device for radio transmission.

GT carbon chassis for electric allowed

Minimum weight: 3800 grams

Length of the heat depending on track layout and after consultation with IFMAR between 5-6 minutes (Heats and finals).

IFMAR ASSOCIATED MEMBERS.

IFMAR would like to thank its Platinium members for their membership.

ARROWMAX / SERPENT / DASH



IFMAR