

INTERNATIONAL FEDERATION OF MODEL AUTO RACING



IFMAR 1/8th I.C. OFF-ROAD RACING AND TECHNICAL RULES

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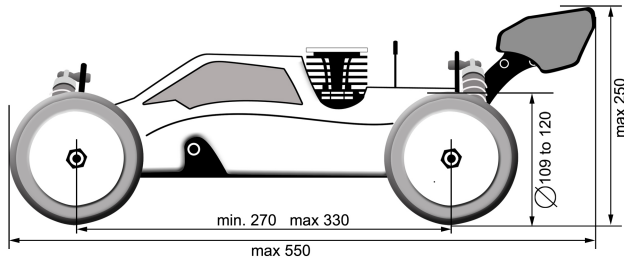
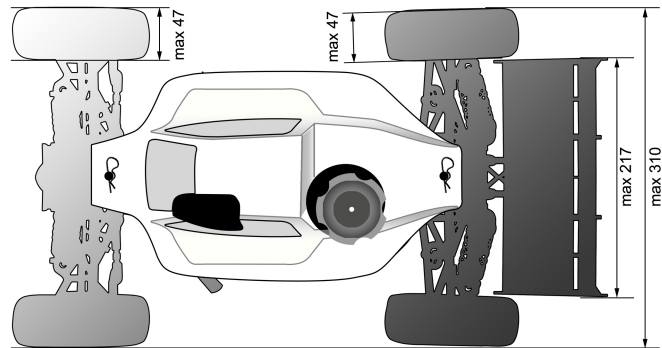
SECTION TWO - CAR/TECHNICAL

(To be read in conjunction with Section 1: General Rules for IFMAR World Championships)

2.1. GENERAL DIMENSIONS

The official measurements in the technical specifications are the metric measurements.

- 2.1.a Overall length - 550mm maximum.
- 2.1.b Overall width – 310,0mm maximum at any point of suspension travel. Technical inspector to be instructed in case of touching both sides by the wheels/tires.
- 2.1.c Wheelbase – 270,0mm to 330,0mm.
- 2.1.d Overall height - measured from the ground including roll bar at full suspension compression is 250,0mm maximum (this measurement does not include the receiver aerial).
- 2.1.e The minimum weight limit, ready to race excluding fuel, shall be 3.2kg/7.04lbs for 4WD cars.
- 2.1.f An Official IFMAR measuring device must be used.
- 2.1.g The front of the vehicle chassis must be equipped with a plastic bumper (no metal at all) in such a manner that it will minimise damage in the case of it entering into contact with other participants, marshals or any person. The bumper must be made from flexible material (plastic) with all corners and sharp edges rounded off. If a rear bumper is used it must follow the same principles.
- 2.1.h The measurement of the wheelbase may be made by simple measure of axle centre distances with the suspension in any position. The Race Director should be prepared to make more exact checks in cases of doubt or protest.
- 2.1.i It is the responsibility of the drivers to ensure that their car complies with the regulations at all times that it is on the track. The race organizer may check any car for compliance with the regulations at any time during the race meeting.
- 2.1.j If a car is found to exceed the limits of dimensions on checking immediately after a race, positive proof of race damage may prevent disqualification.
- 2.1.k During technical inspection, to be done on an open to sight secured area, only the driver, one mechanic and the team manager are entitled to be present in addition to Race Officials.



2.2. ENGINES

- 2.2.a Internal combustion engines of not more than 3.5 cubic centimetres/0.214 cubic inches. No tolerance allowed.
- 2.2.b The fuel tank, including filter and fuel pipes up to the carburettor may hold a maximum of 125 millilitres/4.23 fluid ounces. **Its capacity cannot be adjusted by any loose or pulled insert.** Any tank found to be illegal (over 125 millilitres) after a heat or final shall be removed from the car and inspected for a second time after an initial 'cool down' period of fifteen (15) minutes. This 'cool down' period is only necessary in the case of temperatures above 20 degrees C/68 degrees F. Only IFMAR approved measuring equipment to be used.

2.2.c All cars will be fitted with brakes and clutch in such a manner as that the car can be held stationary whilst the engine is running.

2.3. SILENCER

2.3.a Only IFMAR homologated silencers are allowed.

2.3.b The silencers used on the car have to bear their homologation number during the entire championship and their measurements have to conform with those on the homologation sheet issued by IFMAR.

2.3.c Silencers may be homologated by ROAR, EFRA, FEMCA or FAMAR up to four (4) months before the event. Silencers homologated in the four (4) month period before the event will not be included on the IFMAR Approved Muffler List for that event.

2.3.d The IFMAR Approved Muffler List will be published on the IFMAR web site and Organizers web site two (2) months prior to the event.

2.3.e The IFMAR Approved Muffler List with detailed drawings must be available in Technical Control. Additional copies of the IFMAR Approved Muffler List must be available to each participant, if requested.

2.3.f The outlet pipe may have a minus tolerance of 2mm./0.078in. (length).

2.4. TYRES

2.4.a All tires must be black with the exception of side wall lettering and a side wall dot circle (max 6mm) or a thin line (max 3mm/) to indicate the hardness of the compound. The application of any additives within the event perimeter is strictly forbidden. The penalty for that is immediate disqualification.

2.4.b No spikes, tubes or additional items intended to increase traction may be either glued to the outside of tires or passed through tires from the inside. "Cut and glue" of the tires is forbidden as well.

2.4.c. Wheel/tire overall diameter must be:

Max dia.	120.00 mm / 4.724 inches
Min. dia.	109.00 mm / 4.29 inches
Width	47.00 mm / 1.85 inches
No rim specs	

2.5 WINGS

The rear wing with a maximum overall size 217 mm length and a chord of no more than 85 mm may be fitted.

Multiplan's wings are authorized

The width of 85 mm is measured between the lower leading edge and the higher trailing edge.

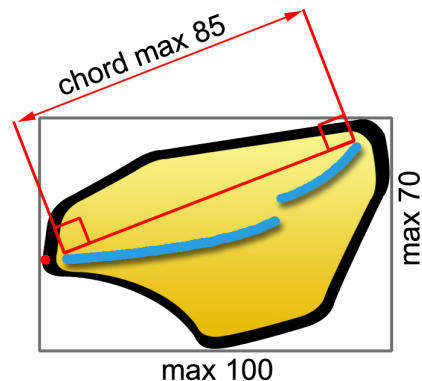
The side dams of the wing must have a maximum horizontal width of 100 mm and a maximum height of 70 mm. (irrespective of the orientation)

The side dams must be able to contain a square area of height of 50 mm to place the car identification numbers (downloaded from IFMAR website), from 1 to 12 at both external sides of side dams.

The single of multi plans wing must be registered inside the contour of the side dams.

The wing and the side dams must be made out of flexible material with angles rounded.

A front wing, in between the front shock absorber holder and the front of the body-shell is allowed, on condition to be made of plastic material or equivalent material (carbon fibre is forbidden) and that it is cut so as not to injure a marshal who may take the car by the front. No sharp angles are allowed, all angles must be rounded. All other front wings are prohibited, wings on wishbones are prohibited. There will be no other aerodynamic aid to the body-shell other than the 2 wings allowed here.



2.6. APPEARANCE

- 2.6.a Cars shall be a reasonable representation of the style of car used for Off-Road, Desert or Trial racing.
- 2.6.b Full body shells of saloon style are permitted but may only be trimmed to expose a maximum of 50% of the tyres at full suspension depression. If such body shells are fitted, provision for trimming shall be as in sub-section "d"
- 2.6.c Where a roll-cage is fitted an open wheel style body shell must be fitted underneath the cage so designed as to enclose R/C equipment and fuel tank with sufficient front and side areas to allow clear display of racing numbers.
- 2.6.d Openings may be cut in the shell for the mounting posts, the antenna and the pipe ends to allow access to fuel filler, radio switch and engine adjustments, and a maximum of a third of the wind screen to assist in cooling the engine if not already opened by the fuel filler access. Clearance around such items shall be kept to a minimum. The front and rear ends of the shell must retain some of the original profile of the two ends of the shell.
- 2.6.e Body shells as described in Section 2.6.c need not conform to scale but should conform to the provisions of 2.6.a.
- 2.6.f Acceptance of a Saloon body shell by another IFMAR section shall be deemed to imply approval by the Off-Road Section for racing purposes.
- 2.6.g Car must run with the body and wing with race numbers at all times while racing.

2.7 FUEL

- 2.7.a 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 25% of nitro methane (CAS number 75-52-5) in volume. The specific gravity of the mixture may not be heavier than 0.91 grams/cc at 20°C and standard atmospheric pressure. Measurement will be done with a nitromax 25% in the pit lane and/or anywhere inside the venue. Any fuel detected heavier than 0.91 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 too heavy. 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.*
- 2.7.b Random fuel tests will be made at any time during the World Championship. Samples and counter samples will be collected for analysis and any competitor found to be using any of the above additives will be disqualified and any race result obtained will be null and void. Further punishment may be determined by IFMAR, such as a ban from all future International Racing.

2.8 DRIVER AIDS

The use of traction control devices, active suspension devices and any steering control aided by gyroscopes/'G'-force sensors is strictly forbidden. Sensors are only allowed for the purpose of passive data recording and not for adjusting the performance of the car whilst in motion. It is the object of this rule to ensure that the IFMAR 1/8th I.C. Off-road World Championship be a test of driver skill.

SECTION THREE - ORGANISATION & PROCEDURES

3 ALLOCATIONS FOR WORLD CHAMPIONSHIPS

- 3.0.a The number of drivers will be decided by IFMAR (see General Rules, Section 1), with a maximum of 180 drivers.
- 3.0.b For allocation and re-allocation procedures see IFMAR General Rules (see Section 1).

3.1 THE TIMETABLE

- 3.1.a Details of the timetable for the overall event with specific details on practice, qualifying and finals has to be included in the Status Report for the consideration of the IFMAR I.C. Section Executive (see General Rules). The event will be held over six (7) days, excluding the spare day:

Track closed for a minimum of 7 days to build new track. After modifications to the track no-one can use the track until the event starts:

- Sunday:** Registration and Admission Inspection, 1400-1800 hours
2 rounds of free practice, one in the morning, one in the afternoon, if track standard lap time is over 50 seconds and facilities allow it, free practice groups can be up to 15 cars and consequently 3 rounds to be held.
Team Managers' Meeting
- Monday:** 3 Rounds of Timed Practice
Final Registration, Admission Inspection, Team Managers Meeting
- Tuesday:** 2 Rounds of Timed Practice (see Rule 3.3)
Admission Inspection
Opening Ceremony at conclusion of Timed Practice
- Wednesday:** 1st, 2nd and 3rd Rounds of Qualifying Heats, **standard time 10 minutes heats.**
- Thursday:** 4th, 5th and 6th Rounds of Qualifying Heats, **standard time 10 minutes heats.**
10 minutes standard time unless unforeseen circumstances do need us to change this. (Sunset and Sunrise can be a reason to make changes to the length of a heat to have enough daylight available)
- Friday:** Lower A & B sub finals up to 1/16 A and B 20 minutes each maximum.
- Saturday:** 1/8 A and B Finals, 1/4 A and B Finals. 30 minutes each maximum.
Semi-Finals Practice. 10 minutes each.
Semi-Finals A and B. 30 minutes each maximum. (Parc Ferme for ALL)
Exhibition final for +45 drivers 20 minutes maximum.
LCQ final, 15 minutes maximum for those left from the semies.
Youth final <= 15 years, max 20 minutes if applicable.

30 Minutes break minimum after LCQ final, before start main final.
Main Final. 60 minutes duration maximum, 11 or 13 drivers.
Prize Presentation on Drivers' Rostrum
Awards' Banquet in evening.

- 3.1.b An opening ceremony will take place at which competitors will participate in a welcoming procession. Each National Team is asked to wear similar shirts. A flag and a sign bearing the name of each country will be provided by the Organizer.

- 3.1.c In the event of rain, racing will proceed irrespective of the weather, within reason. All races, including sub-finals and final, will take place at the appointed time, wet or dry. If heavy electrical storms occur, racing will be suspended. The Race Director, together with the Referees, will make the decision.

3.2 RACING FORMAT

- 3.2.a Qualification heats shall contain a maximum of 12 drivers and shall be of maximum ten (10) minutes duration + last lap. There will be a maximum of 15 Heats (x 12 = 180 drivers).

The order of the heats will be: -

FOR 15 HEATS:

ROUND	START ORDER HEAT #
1	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
2	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
3	7, 8, 9, 10, 11, 12, 13, 14, 15, 1, 2, 3, 4, 5, 6
4	7, 8, 9, 10, 11, 12, 13, 14, 15, 1, 2, 3, 4, 5, 6
5	12, 13, 14, 15, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
6	12, 13, 14, 15, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11

- 3.2.b Each driver shall be entitled to a maximum of 6 attempts at qualification, weather permitting.
- 3.2.c An audible warning will be given in English language at one (1) minute and at thirty (30) seconds during the warm-up period. At the starting time, an audible and visible signal will be given for a rolling start.
- 3.2.d Flying Start: Timing/counting starts for each car separately the first time that car passes the start-line or as maximum as when a 150% of a standard lap-time for the track has passed since the clock is running. The start/finish line must be clearly marked on the track surface and side barriers.
- 3.2.e All drivers will be entitled to participate in a final.
- 3.2.f The top qualifier can compete in the semi-final 'A' and can practice at both semi-finals practice runs. **(see also rule 3.4.e)** and will receive the Top Qualifier's trophy at the Awards' Banquet. The first four or five (4 or 5) drivers from each semi-final will go into the Main Final. The remaining two nominal (2) positions in the Main Final will be taken by the next two (2) fastest drivers from either of the two (2) semi-finals. The positions in the Main Final are determined by each drivers' semi-final result. In the case of different weather conditions (dry/wet) during the semifinals, five or six (5 or 6) from each semi-final will go to the Main Final and their position will be based on their result achieved for each respective race combined.
- 3.2.g **Deliberate stops waiting for the signal at the track and cutting the track to find a better position in it are infringements to be penalized unless otherwise authorized by common decision of the Race Director and the Referees communicated at the Team Manager Meeting. The announcement: "Clock is running" will indicate that the heat has started.**
- 3.2.h All sub-finals consisting of ten/twelve/thirteen (10/12/13) drivers are of twenty (20) minutes duration (up to 1/16 sub finals) or of thirty (30) minutes duration (from 1/8th to semi-finals) with the top three/four (3 / 4) from each sub-final progressing to the next sub-final up to and including the quarter (1/4) finals.
- 3.2.i No allowance for changing conditions from 'A' or 'B' sub-finals will be made.
- 3.2.j The main Final, consisting of ten or twelve (10 or 12) cars, plus an extra last car (that spot will be decided on a 15 minutes race among the discarded semi-finalists after the exhibition final: LCQ) is of sixty (60) minutes duration.
- 3.2.k The Race Director may authorize track repairs or improvements with the referees agreement. Team Managers will be informed. This may include watering in order to ensure tracks stability for the duration of the event.
- 3.2.l During heats and finals, a maximum of two (2) mechanics per driver and the designated Team Manager are allowed in the pits. The Team Manager cannot act as a third mechanic.

3.3 TIMED PRACTICE SYSTEM

- 3.3.a The practice for drivers will only be run in qualification group order. If facilities allow it, Practice Heats can include up to 15 drivers per heat.
- 3.3.b - Monday 3 rounds of controlled practice, not counting towards reseeding

- Tuesday, 2 rounds timed practice will be of ten (10) minutes duration after warm-up:

Either;

- a) Best consecutive laps added together for a result inside either the complete 10 minutes duration or those last 5 minutes or
- b) The complete 5 minutes may be used for seeding purposes (laps and time).

The selection of the seeding system is done by the race director and must be clearly advised before the start of controlled practice. Prior to the start in case of five (5) minutes, a warning is given at two (2) minutes, one (1) minute and thirty (30) seconds and an announcement stating "Clock is running". Results of the Tuesday will be published (laps and times). Points will be awarded according to the results of the Tuesday rounds only.

- 3.3.c The best point result scored in Tuesday rounds will be used to sort drivers by performance and to seed them before the actual qualifying rounds.
- 3.3.d For re-seeding drivers into their new qualification heats, the first 10 or 12 **odd** drivers will go into heat 15 and the first 10-12 **even** drivers will go to heat 14, etc., etc.

3.4 QUALIFYING SYSTEM

- 3.4.a. 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.*
- 3.4.b. 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 points according to their position in the qualifying list.

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

If a driver does not score a time (or has his time disqualified) in any Round, the driver scores points equal to 500. (This is due to situation when rain occurs and half of the drivers do not run, in Off-road rainy, or wet track rounds do count, however not everybody does drive).

- 3.4.c. 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 driver's 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.

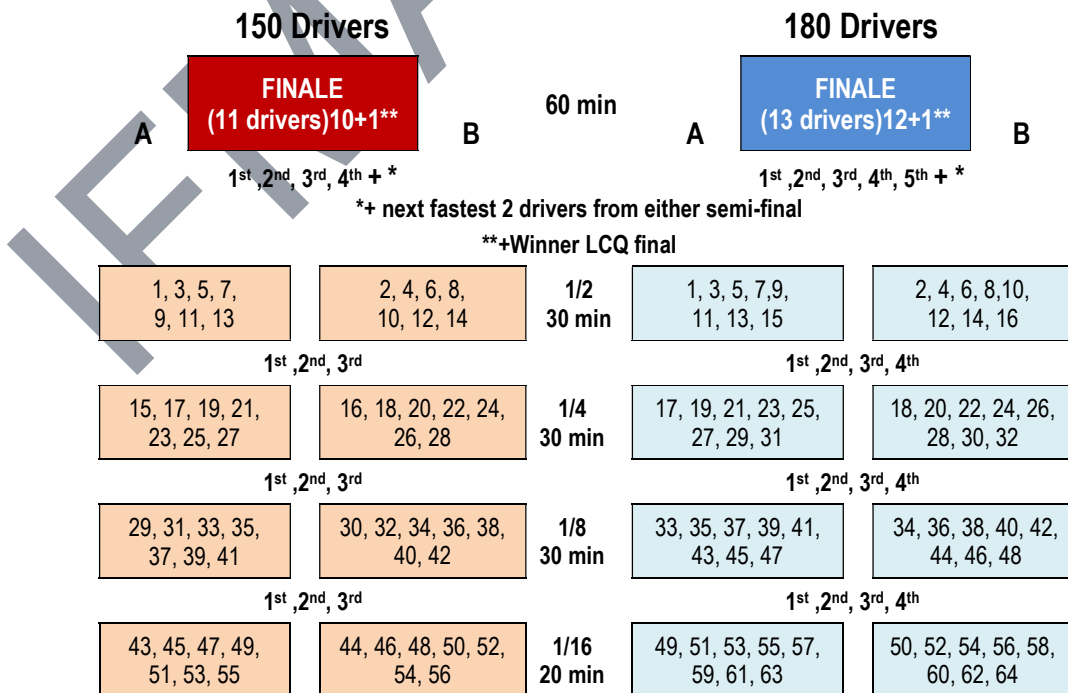
- 3.4.d. Overall Qualifying Positions:
Out of six (6) Qualifying Rounds: each drivers best three (3) point scores (lowest) will be added to count for the Overall Ranking.
Out of five (5) Qualifying Rounds: each drivers best three (3) point scores (lowest) will be added to count for the Overall Ranking.
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.

- 3.4.e. All drivers will be entitled to a sub-final.
- 3.4.f. If a driver does not start a heat, he receives 500 points.

3.5 FINALS

- 3.5.a. 'A' series of sub-finals will be composed of odd placed drivers following qualification, 'B' series sub-finals will be composed of even placed drivers after qualification.
- 3.5.b. Every qualifying driver must progress to the Main Final in accordance with the accompanying Christmas Tree system.
- 3.5.c. All sub-finals are twenty (20) minutes duration, up to 1/8 finals, from 1/8th to semi-finals all will be of thirty (30) minutes duration, with the top three/four (3/4) from each sub-final, up to the quarter (1/4) finals, progressing to the next sub-final, and the first four/five (4/5) from each semi (1/2) final progressing to the Main Final, along with the next two (2) fastest drivers from either of the two (2) semi-finals. (see also 3.5 Christmas tree).
- 3.5.d. No allowance for changing conditions from 'A' or 'B' sub-finals will be made.
- 3.5.e. After the finish of the quarter finals, each semi-final ('A' & 'B') is entitled a ten (10) minutes practice time with numbers and appropriate radio frequencies. TQ driver after qualifying will have the right to practice in both semifinal-practices.
- 3.5.f. DELAYED START – As long as the starter has not called the cars to the starting line, every participant of the semi-finals and the final may request a delay of ten (10) minutes for repairs on his car. The delay will be granted only once for each semi-final and the Main Final. The track shall be closed to all cars during the delay period. The driver requesting the delay for whatever reason, except an error in frequencies by Race Control, must start from the back of the grid, six (6) metres/19.68 feet behind the last official grid position or from pit lane as released by the official.
- 3.5.g. Over 45 years old final. After both semi-finals and before the main final there will be an exhibition final of twenty (20) minutes for drivers older than 45 years at the moment of the race. Drivers will qualify for that race according to their result achieved in qualification; top 10/12/15 will have the right to compete at this final except those who have reached semi-finals.
- 3.5.h. Youth final, 15 years and younger, see General rules.

3.6 CHRISTMAS TREE



1 st , 2 nd , 3 rd		1/32 20 min	1 st , 2 nd , 3 rd , 4 th	
57, 59, 61, 63, 65, 67, 69	58, 60, 62, 64, 66, 68, 70		65, 67, 69, 71, 73, 75, 77, 79	66, 68, 70, 72, 74, 76, 78, 80
1 st , 2 nd , 3 rd		1/64 20 min	1 st , 2 nd , 3 rd , 4 th	
71, 73, 75, 77, 79, 81, 83	72, 74, 76, 78, 80, 82, 84		81, 83, 85, 87, 89, 91, 93, 95	82, 84, 86, 88, 90, 92, 94, 96
1 st , 2 nd , 3 rd		1/128 20 min	1 st , 2 nd , 3 rd , 4 th	
85, 87, 89, 91, 93, 95, 97	86, 88, 90, 92, 94, 96, 98		97, 99, 101, 103, 105, 107, 109, 111	98, 100, 102, 104, 106, 108, 110, 112
1 st , 2 nd , 3 rd		1/256 20 min	1 st , 2 nd , 3 rd , 4 th	
99, 101, 103, 105, 107, 109, 111	100, 102, 104, 106, 108, 110, 112		113, 115, 117, 119, 121, 123, 125, 127	114, 116, 118, 120, 122, 124, 126, 128
1 st , 2 nd , 3 rd		1/512 20 min	1 st , 2 nd , 3 rd , 4 th	
113, 115, 117, 119, 121, 123, 125	114, 116, 118, 120, 122, 124, 126		129, 131, 133, 135, 137, 139, 141, 143	130, 132, 134, 136, 138, 140, 142, 144
1 st , 2 nd , 3 rd		1/1024 20 min	1 st , 2 nd , 3 rd , 4 th	
127, 129, 131, 133, 135, 137, 139	128, 130, 132, 134, 136, 138, 140		145, 147, 149, 151, 153, 155, 157, 159	146, 148, 150, 152, 154, 156, 158, 160
1 st , 2 nd , 3 rd		1/2048 20 min	1 st , 2 nd , 3 rd , 4 th	
141, 143, 145, 147, 149	142, 144, 146, 148, 150		161, 163, 165, 167, 169, 171, 173, 175, 177, 179	162, 164, 166, 168, 171, 172, 174, 176, 178, 180

3.7 ACCOMMODATION REQUIREMENTS

- 3.7.a The drivers' area must accommodate all drivers and be equipped with tables, seats and lights to work there on an standard timeframe up to 20:00. The area must be covered and protected from adverse weather conditions. The drivers' rostrum must be accessible from the drivers' area.
- 3.7.b The drivers' rostrum must accommodate ten/twelve (10/12/) drivers with a minimum of 80cm space for each driver. The width of the rostrum must be a minimum of 1.25 metres. Height of the rostrum-floor to be between two (2) and four (4) metres. Access to the rostrum must be by a solid stair, with a minimum width of 1.2 metres. A strong parapet is mandatory. The rostrum must be protected against bad weather or sunshine.
- Mechanic must be positioned under his driver's position. During finals, positions 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.
- 3.7.c The drivers' rostrum must be placed in a position that provides equal view of the track to each of the drivers at any place on the rostrum, during practice or racing. The view must not be obstructed by any object (pillar, flagpole, other drivers, etc). The distance from the front of the rostrum to the nearest part of the track must be between two (2) and four (4) metres.
- 3.7.d 3.7.e Timing and lap counting area must be located at a slow part of the track, with a good view for all lap counting officials. The number of a car must be readable for at least two (2) seconds from that area. Adequate space must be provided for lap counting officials. The area must be protected against bad weather. Interruptions to lap-counting officials by driver, managers or others must be prevented.
- 3.7.f A results board must be positioned at a convenient place not far from the timing and lap counting area and shall be accessible to all competitors and team managers. The scoreboard shall be protected against wind and rain. Copies of all results must be available upon request of officials.

- 3.7.g Referees must be provided with an exclusive vantage point for their use only and separated from all drivers and mechanics. There must be a means of direct communication (intercom) between the Referees and both the drivers' rostrum and the flag marshal.
- 3.7.h All official announcements concerning the race must be made in English in the pit area, drivers' stand and mechanics' area.
- 3.7.i A supply of clean running water and compressed air must be available enabling competitors to clean their cars, a minimum of 4 outlets for each service is recommended.
- 3.7.j Power to charge batteries and use powered hand tools must be available with at least 1 connection per each 6 participants

3.8 SAFETY

- 3.8.a The safety of the spectators is of prime importance and must be considered when laying out track and spectator areas.
- 3.8.b The safety of officials, helpers, competitors and accompanying people are of equal importance, but it is assumed that they are more aware of any potential danger.
- 3.8.c Spectators, competitors, marshals and officials must be efficiently protected against the cars by adequate barriers.
- 3.8.d Track markers must be shaped and placed in a way that prevents cars from being projected into the public when hit at full speed.
- 3.8.e Technical inspection must always include the safety aspects of the cars. No sharp edges or other protruding parts of cars that may cause serious injuries in case of an accident are permitted.
- 3.8.f First Aid supplies must be available throughout the event (including practice) in case of necessity.
- 3.8.g A First Aid officer must be present throughout.
- 3.8.h Police and emergency services must have access to all areas, both public and restricted.
- 3.8.i An insurance against accidents and legal liability is compulsory. A copy of the Insurance Certificate must be enclosed with the Contract for the event.

3.9 LAP COUNTING & TIME KEEPING REQUIREMENTS & PROCEDURE

- 3.9.a. During IFMAR sanctioned events the lap counting is to be done automatically by means of an automatic lap counting system and transponders fitted on to each of the cars' body shell.
- 3.9.b AMB/MyLaps lap counting system or IFMAR approved equivalent must be used in duplicate. The Two approved independent automatic systems must be used simultaneously at IFMAR sanctioned events. IFMAR will check both systems. Both systems must produce a record of all the individual lap times of all cars and the number of laps and final time after finishing. Lap times and final time must be in seconds to 1/100th second (and minutes/hours). Both systems will be operated by the organising club.
- 3.9.c Detailed requirements follow:
 1. Lap times must be in seconds to 1/100th second and final times in hours, minutes, and seconds to 1/100th second.
 2. Printouts must be kept with the record sheet, on which the final result is written down.
- 3.9.d The results from the first and second system are compared and in case of differences, the time keeping official must examine the data produced and in particular the lap time sheets. The final decision on the result is the responsibility of the Time-Keeper.
- 3.9.e The time keeping official is responsible for publication of the final results. He must store all the data produced by the two (2) systems until the end of the meeting which can then be used in case of protest against the results.
- 3.9.f Electronic systems must be connected to a reliable power source, a generator as primary power source may be used only if there is concern regarding the continuity of a reliable power source. If a generator is used must be of a commercial standard and all connections and plugs must be secure ensuring no accidental or easy disconnection can be facilitated. When the two electronic systems are run simultaneously, the backup must be powered from an independent power source.

- 3.9.g Both the first and the second time keeping and lap counting system must satisfy the requirements of IFMAR and therefore must be proposed and explained on the Sanction Questionnaire.
- 3.9.h The official result sheets containing results of all heats, sub-finals and finals must be sent to the relevant IFMAR Section Chairman within ten (10) days of the race. The final classification of the qualifying heats must also be completed and sent to the IFMAR Section Chairman.
- 3.9.i If both the primary and support lap counting system fail during a qualifying heat or final, the heat or final will be re-run as soon as is practicable. Under no circumstances will any lap score or time, other than those from the official time-keeping equipment, be accepted for any purpose to do with the running of an IFMAR race.
- 3.9.j Every competitor must use his own AMB/MyLaps compatible personal transponder. Changing the transponder is allowed if the lap counting officials are informed and agree. Competitors are required to install their transponder into their cars according to the organiser's instructions
- 3.9.k The secure fitting of the transponder to the car's body shell or chassis remains the responsibility of the driver.
- 3.9.l If a driver loses a transponder during the race or if the transponder is not working, the driver and pit-crew will be notified by a race official as soon as possible.
- 3.9.m If a lap counting problem occurs, transponders must be moved to a better position on the car on the Race Director's instruction.
- 3.9.n The provision of on-site copying facilities is mandatory.
- 3.9.o A suitable working computer with proper race proven programmes must be provided to sort lap times, print results from heats and sort final positions from each series of races within fifteen (15) minutes of the completion of the series of races.
- 3.9.p Automatic lap counting, with cumulative and split lap times, will be in place for each car. An audio/video tape recording will be made from the timing loop.

3.10 RACE OFFICIALS – REFEREES

See General Rules.

3.23. ARRANGEMENT OF HEATS

- 3.23.a The arrangement of the heats will be done according to rule 3.3.d.

3.24 REGISTRATION

- 3.24.a Drivers' registration must take place on the day prior to the race and on the morning of the first day until 12:00.
- 3.24.b IFMAR may authorize later registration as requested by Team Managers or Block Representatives. If a driver has not registered by midday of the first day of the event, then his place can be reallocated except if such notification has been given.
- 3.24.c During registration, every driver will be given an envelope which includes:
 - A detailed schedule including starting times of each heat.
 - One set (1) set of three (3) starting numbers for the car (one in front) & for the wing (2 on the wind endplates), one (1) set of registration numbers for the transmitter & (1) for fuel bottle, one (1) badge each for the driver (this badge must show his passport-size photograph) and (1) mechanic.
 - The size of car numbers to be minimum 40mm high x 30mm wide with a stroke of minimum 8mm in black on a white/yellow background measuring minimum 55mm in height by minimum 40mm width.
 - Any other necessary information. Templates available on the Ifmar website.
 - Optional: Additional mechanic passes (up to 2 extra) can be purchased at the price of 10 USD or its equivalent currency. Passes for visitors and guests might be requested. The price of those will be 5 USD per day or 15 USD per event.
- 3.24.d One badge/pass must be provided for each country's Team Manager.

3.24.e When registration of drivers is carried out, each driver will sign a form that states that he accepts, and will abide by the published rules of the event.

3.24.f The following colour badges will provide 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

3.25 RADIO FREQUENCIES.

3.25.a. Use of 2.4GHz DSM/DSS systems or standard crystal equipped transmitters. Only radio frequencies of the competent body of the country concerned will be used. Other frequencies may only be used with the approval of the Organizer, who then takes no responsibility. The Organizer may refuse non-authorized frequencies, providing competitors have been notified in the Race Invitation.

3.26 TRANSMITTERS & TRANSMITTER IMPOUND

3.26.a. With 99% of the drivers using 2.4GHz DSM/DSS systems, NO radio impound needed: HOWEVER, Radio's may only be switched on for drivers that have to run their heat or final and the group that warms-up the engine and is to run the next heat or final. All other Radios must remain switched off in the paddock area, except when maintenance or adjustments are required. All radio maintenance must be carried out in area designated "radio maintenance area"

The designated area should be as far away as practical from the drivers' rostrum should be identified during the team managers meeting.

At any time the race director can change this decision to implement a radio impound if they receive complaints about radio problems from at least 3 countries and they feels the request is valid and is required for safety.

No delays or protests will be accepted due to radios not being impounded. Use of 2.4GHz DSM/DSS systems. Due to the way they operate, a driver using such a system cannot ask for any delay in case of radio problems.

Drivers who come from the rostrum must give their radio to their mechanics before going to their Marshall position. Not obeying these simple rules can cause a penalty.

3.27 TECHNICAL INSPECTION

3.27.a An Initial Inspection must take place before the start of the racing. Cars must be presented for inspection after being called by the officials.

3.27.b Technical Inspection must include a thorough check-out of the car and, if needed, a simple check of the transmitter. Transmitters are limited to the manufacturers' recommended voltage. External transmitter battery packs are not permitted.

3.27.c Only one car per driver will be accepted. All transmitters must be marked with a driver identification number and only these transmitters, thus identified, may be used in the event.

3.27.d When a car or transmitter does not comply with the rules, changes may be carried out before presenting it for final admission, but it is not mandatory, it is the responsibility of the driver to ensure its car and radio is legal at every moment of the event.

3.27.e Cars which have passed Initial Inspection must be marked with the drivers identification number. This number must be placed on to the chassis plate. Only one (1) car per driver.

3.27.f For each competitor the race has officially started after initial inspection..

3.27.g The Technical Inspector may request inspection of any entrant's car at any time during the race, without giving reasons.

- 3.27.h All cars of semi-finalists and finalists go into a 'Parc Ferme' immediately after the finish of their race and are inspected. Cars must remain with the officials and be untouched by drivers or mechanics. Any race distortion must be ignored. Inspection be on at least: engine, tank capacity, chassis (dimensions).
- 3.27.i The marked part of the car, the main chassis, may only be changed with the approval of the Race Director. The original marked chassis must be left with the Race Director.

3.28 TEAM MANAGERS' MEETING

- 3.28.a A Team Managers' Meeting must be held prior to the race and it must be held in the host nation's language and at least English. The Race Director must call the meeting and Team Managers, Referees and other officials must be present.
- 3.28.b The Team Managers' Meeting must be held between fifteen (15) and thirty (30) minutes before the start of racing.
- 3.28.c The following points should be covered in the Team Managers' Meeting; security and safety items, the starting procedure and explanation, disciplinary questions, other items concerning the contestants, changes in the organization or procedures, presentation of the main officials and Referees.

3.29 FLAGS

- 3.29.a The use of the following flags is compulsory: Starting Flag - the National flag of the host country where the race is being held. Finish Flag - a chequered flag. Black Flag - all black flag.
- 3.29.b Black Flag: The car in question must immediately stop in the pit to receive instructions (see Sections 3.13 and 3.14). The black flag will be used by either a referee or the Race Director if a car is judged to be in an undriveable or dangerous condition. If after repairs have been carried out and after the Race Director or Referee has approved the repair, the driver may continue his race. Cars which lose their bodies or other parts must immediately stop and carry out the necessary repairs after which they may re-start.
- 3.29.c The Black Flag is operated by the Flagman (Starter), who receives his instructions to do so from either the Race Director or the Referees. Under no circumstances may he use the black flag on his own authority. The Black Flag is always shown with the corresponding car number.
- 3.29.d Not responding to the black flag within two (2) laps will lead to disqualification of the participant concerned.

3.30 CAUSES FOR PENALTIES

Penalties in time, laps or even disqualification will be issued by the IFMAR referees for the following:

- a) Unsportsmanlike behaviour.
- b) Deliberate corner cutting.
- c) Re-entering the race from other than the point at which the car left the track (not in the case of an engine stoppage and the car has to be re-started when the car re-enters the race from the pits).
- d) When repairs are made to the car other than in the pit area of the track.
- e) If the car is pushed over the finish line (it must finish under its own power).
- f) Not returning to the pits after finishing a race.
- g) If orders of Race Officials are not obeyed.
- h) If acting contrary to IFMAR rules.
- i) If a driver changes his complete car for whatever reason.
- j) If a driver changes his frequency without the permission of the Race Director.

- k) The bad behaviour and deportment of any competitor during the race meeting which could injure the image of the sport. This may become subject to National or International (IFMAR) sanction.
- l) If a car fails technical inspection, that round time will be disallowed.
- m) If a driver jump starts in any final, the Referees will give a 'Stop and Go' penalty.

3.31 REFEREES' WARNINGS

- 3.31.a Official warnings and added time or lap penalties issued by the referees must be noted on the result sheet and on the result board for the drivers (preferably in red).
- 3.31.b Penalties must be awarded either as "pass through", "stop and go" or "time penalties" when & where possible. The Referees should inform the driver and announce the penalty through the sound system. Within the next three (3) laps, the driver must bring the car to the required area for the correspondent penalty. At the time penalty served at the pit-lane the mechanic of the car will pick up the car and watch the Referee for an indication that the car can be returned to the track. The car must return to the track through the pit lane. In the case where the driver does not stop, or cannot comply, a one (1) lap penalty will automatically be given.

3.32 PROTESTS

- 3.32.a Only drivers participating in the race may enter a protest.
- 3.32.b A protest can only be made through the Team Manager.
- 3.32.c Protests may concern: The organization (acting contrary to the rules), officials (acting contrary to the rules), results (only when proof can be presented showing the result is wrong), other competitors (acting contrary to the rules to seek advantage or disadvantage for the protestor).
- 3.32.d Only written protests handed over to the Race Director within ten (10) minutes of the publication of results of the heat or occasion to which it concerns, will be considered.
- 3.32.e Fifty (50) U.S. dollars or the equivalent in the host country's currency has to be paid to the Race Director, who will only then accept the protest. The time of receipt of the protest must be recorded.
- 3.32.f The protest must contain relevant information for the Race Director to be able to discuss the protest and decide.
- 3.32.g Protests are dealt with by the Race Director and if necessary the International Jury.
- 3.32.h The decision on the protest must be made within thirty (30) minutes of it being lodged and accepted. Only for important reasons and when the International Jury has to meet, may the decision be delayed to sixty (60) minutes maximum. When the protest concerns sub-finals or finals, either the decision must be taken ten (10) minutes before the start of the following final or the start of the next final must be delayed until ten (10) minutes after the decision.
- 3.32.i After the final race, there will be a 'protest period' of thirty (30) minutes after the provisional results have been published in writing on the score board. For this purpose, the publishing time of the provisional results must be noted down on the result sheets. During these thirty (30) minutes, protests against the results may be presented to the Race Director who will then act accordingly. If no protests are presented within the thirty (30) minutes 'protest period', the provisional results become official and final and may be announced.
- 3.32.j The applicant of a protest cannot appeal against the decision.
- 3.32.k If the protest is upheld, the protest fee of fifty dollars (\$50 U.S.) must be returned immediately.
- 3.32.l The Race Director may without a protest being made, correct results or earlier decisions which he may deem necessary after consultation with his organizing staff and the referees.

3.33 PRIZES & PRIZE CEREMONY

- 3.33.a Immediately after the finish of the race and before the drivers leave the drivers' rostrum, the unofficial winner must be declared for the public and a symbolic first place award is presented. This award must be returned to the Organizer immediately after the unofficial ceremony. After Technical Inspection a top 3 prize giving podium must be displayed track side.

- 3.33.b The banquet and awards' presentation is to be held on the evening of the main finals or the following day/evening. Competitors are to receive a trophy as per rule 1.9. of the General Rules
- 3.33.c Winners are not entitled to claim prizes.
- 3.33.d Cash prizes or any other means of payment (paper tickets or coins of an obvious exchangeable value) are strictly forbidden.

3.34 NATION / Bloc's CUP

- 3.34.a IFMAR will hold a BLOC's Cup, with drivers competing as a team representing their BLOCS. Before the start of the official qualifying rounds each BLOC will provide the Race Director with a with a maximum of four (4) names of drivers which will represent their Bloc at this Blocs Cup. Out of these four drivers the best result in points according to their final position achieved of the best three (3) of them will be added together and give the result of their Bloc Team. Each bloc can nominate 2 teams if all blocs have taken at least 20 allocations.

3.35 RADIO COMMUNICATION

RADIO COMMUNICATION IS ALLOWED BETWEEN DRIVER AND ONE 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 and one (1) of his mechanics at the rostrum area, only while the driver is on the drivers' rostrum or the staging area for the duration of the 2 races.
- 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.

SECTION FOUR – TRACK REQUIREMENTS

4. TRACK

Minimum width: Four (4) meters.
Minimum length: Three hundred (300) meters.

The track lay-out for the IFMAR World Championship event must be new or renewed in more than a 60 % of its lay-out and/or surface.

Any pre-event race must be held at least 4 weeks prior to the actual event and the soil to build the track must remain the same as for the actual WC event, but with a completely or partly (minimum 60%) new layout.

4.1 SURFACE

Artificial surfaces must be of the same type used for road construction. They must not be potentially dangerous or pollutant. Within the total length of the track fifty per cent (50%) minimum must be from natural soil.

Any straight longer than ten (10) meters must be from natural soil.

Any section made from artificial surface must not be longer than ten (10) meters.

A natural soil section of a minimum of five (5) meters must always separate two (2) artificial surface sections.

At location of the lap counting antenna, there must not be any metallic structure.

Deterioration of the natural soil area must not uncover obstacles in the transit area between natural soil and artificial surface (overlapping slope must be smooth and of sufficient length).

The track must be suitably drained.

4.2 JUMPS AND OBSTACLES

When constructing jumps, the safety of the public and marshals must be the main priority.

Any combination of multiple jumps will be considered as a one-jump section and each track will have a minimum of four (4) jump sections

4.3 SAFETY

Safety for everybody must be the most important aspect when designing the track.

4.4 MAINTENANCE

The track surface may only be repaired at the end of qualifying.

Repairs or improvements may be made, at any time, with the concurrence of the Race Director and the Referees.

4.5 OTHER TRACK SPECIFICATIONS

- 4.5.1 A pit lane must be provided that has a convenient and safe entrance and exit to and from the racing surface. It must be separated from the racing surface by a secure barrier of the same specifications as the inner barriers for the class of cars being raced.

There must be a second barrier of at least the same specifications of the outer barrier between the pit lane and the working pit areas. The design of the pit lane entrance and exit must be done to prevent high speed racing in the pit-lane.

- 4.5.2 All refuelling, repairing, or servicing of cars must be done with the vehicle fully behind the barrier between the pit lane and the working pit area, and not in or over the pit lane. Cars may be placed on top of the exterior pit walls for servicing provided the wall has been designed so that the car is secure and stable.

- 4.5.3 An engine testing/tuning area will be provided at a reasonable distance, away from the pit tables.

No engine to be started in the pit tables area.

FINISH

IFMAR ASSOCIATED PLATINUM MEMBERS.

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



This could be your logo, check with our secretary in case you are interested