

INTERNATIONAL FEDERATION OF MODEL AUTO RACING



# IFMAR 1/10th I.C. TRACK RACING AND TECHNICAL RULES

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## **IFMAR 1/10th SCALE I.C.(GAS) 200mm RACING AND TECHNICAL RULES**

To be read in conjunction with Section 1. GENERAL Rules for IFMAR World Championships

### **SECTION TWO -RACING FORMAT**

#### **2.0 PARTICIPANTS**

The World Championship will consist of a maximum of one hundred and fifty (150) competitors.

#### **2.1 SCHEDULE**

The World Championship will be run over a period of eleven (11) days.

#### **2.2 EVENT SCHEDULE**

No practice on the event track will be allowed in that specific W.C. class during the two (2) weeks preceding frequency controlled practice. 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. Frequency controlled practice will not normally be changed but may be if, because of unforeseen circumstances, the Team Managers' Committee votes to do so with approval from the International Jury. The schedule for the event will be as follows:

1 <sup>st</sup> – 4th Event Days	Thursday-Sunday	Frequency controlled practice
5 <sup>th</sup> Event Day	Monday	Controlled heat practice and Opening Ceremony
6 <sup>th</sup> – 8th Event Days	Tuesday-Thursday	Qualification rounds
9 <sup>th</sup> Event Day	Friday	Lower Christmas Tree finals – 1/8 <sup>th</sup> and lower
10 <sup>th</sup> Event Day	Saturday	Higher Christmas Tree finals – 1/4 and higher
11 <sup>th</sup> Event Day	Sunday	Spare Day – to be used to allow for any delay in schedule. Banquet and Awards' presentation to be held on Sunday night or, if approved by IFMAR, on the Saturday night.

#### **2.3 REGISTRATION**

Sunday from 08.00 to 18.00 and Monday from 08.00 to 18.00. Final deadline for registration: Monday 18.00. IFMAR may authorise later registration at its discretion. When registration of drivers is carried out, each driver will sign a form which states that he accepts, and will abide by, the published rules of the event.

#### **2.4 DRIVERS' AND TEAM MANAGERS' MEETINGS**

2.4.1 Any drivers' briefings are to be held at the Organiser's discretion when all drivers must attend.

2.4.2 A Team Managers' Meeting before the start of the first round of qualifying heats is compulsory. All Team Managers must attend.

2.4.3 Further Team Managers' Meetings are recommended but are called at the Organiser's discretion.

#### **2.5 TECHNICAL INSPECTION**

Will be on Sunday and Monday from 08.00 until 18.30. Drivers or mechanics have to present their cars with bodies, empty tanks, a bottle of fuel and transmitters.

#### **2.6 CONTROLLED PRACTICE**

All drivers will have the chance to participate in frequency controlled practice on Saturday and Sunday. There will be a timed practice for drivers in their published heats on Monday, ten (10) minute practice heats beginning at 08.30.

#### **2.7 OPENING CEREMONY**

An opening ceremony will take place on Monday 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. Concours d'Elegance will be held at the Opening Ceremony and judged in two (2)

categories, i.e. best paint job and best 1/10th scale replica. There will be one (1) trophy for each category.

## 2.8 QUALIFYING HEATS

2.8.1 There will be six (6) qualifying rounds of ten (10) minutes for each entrant, the best number of laps and time of finishing lap counting for best result. The entrants will be divided into two (2) groups: Group A, heats 1 to 7, Group B, heats 8 to 15.

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

Tuesday: Rounds 1 and 2

### Group A

heat 1 09.30 11.15

heat 2 09.45 11.30

heat 3 10.00 11.45

heat 4 10.15 12.00

heat 5 10.30 12.15

heat 6 10.45 12.30

heat 7 11.00 12.45

### Group B

heat 15 13.45 15.45

heat 14 14.00 16.00

heat 13 14.15 16.15

heat 12 14.30 16.30

heat 11 14.45 16.45

heat 10 15.00 17.00

heat 9 15.15 17.15

heat 8 15.30 17.30

After round two (2) of qualifying heats, drivers will be re-seeded within their group for remaining rounds of heats.

After re-seeding:

Wednesday: Rounds 3 and 4

Group B starts at 09.30 – heat 8 to 15, heat 8 to 15

Group A starts at 13.45 – heat 7 to 1, heat 7 to 1

Thursday: Rounds 5 and 6

Group starts at 9.30 - heat 4 to 1, heat 15 to 5

Group starts at 13.30 – heat 4 to 1, heat 5 to 15

Group A starts at 9.30 heat 1 to 7

Group B starts at 11.30 heat 8 to 15

Group A starts at 13.30 heat 7 to 1

Group B starts at 15.30 heat 15 to 8

This schedule assumes 150 drivers. For less there would be equivalent heats.

2.8.2 The top four (4) qualifiers go straight to the Main Final.

## 2.9 FINALS

All sub-finals and final consist of ten (10) drivers. "Christmas Tree" System for 150 entries.

A leg	FINAL 1,2,3,4 60 minutes	B leg
1 <sup>st</sup> , 2 <sup>nd</sup> *	* + next fastest 2 drivers from either semi-final	1 <sup>st</sup> , 2 <sup>nd</sup> *
5, 7, 9, 11, 13, 15, 17 1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup>	1/2 30 minutes	6, 8, 10, 12, 14, 16, 18 1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup>
19, 21, 23, 25, 27, 29, 31 1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup>	1/4 20 minutes	20, 22, 24, 26, 28, 30, 32 1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup>
33, 35, 37, 39, 41, 43, 45 1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup>	1/8 20 minutes	34, 36, 38, 40, 42, 44, 46 1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup>
47, 49, 51, 53, 55, 57, 59 1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup>	1/16 20 minutes	48, 50, 52, 54, 56, 58, 60 1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup>
61, 63, 65, 67, 69, 71, 73 1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup>	1/32 20 minutes	62, 64, 66, 68, 70, 72, 74 1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup>
75, 77, 79, 81, 83, 85, 87 1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup>	1/64 20 minutes	76, 78, 80, 82, 84, 86, 88 1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup>
89, 91, 93, 95, 97, 99, 101 1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup>	1/128 20 minutes	90, 92, 94, 96, 98, 100, 102 1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup>
103, 105, 107, 109, 111, 113, 115 1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup>	1/256 20 minutes	106, 108, 110, 112, 114, 116 1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup>
117, 119, 121, 123, 125, 127, 129 1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup>	1/512 20 minutes	118, 120, 122, 124, 126, 128, 130 1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup>
131, 133, 135, 137, 139, 141, 143, 145, 147, 149	1/1024 20 minutes	132, 134, 136, 138, 140, 142, 144, 146, 148, 150

The car numbers for the six (6) 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
08.00	1/1024 B	08.30	1/1024 A
09.00	1/512 B	09.30	1/512 A

10.00	1/256 B		10.30	1/256 A
11.00	1/128 B		11.30	1/128 A
<b>12.00 – 13.30 LUNCHBREAK</b>				
13.30	1/64 B		14.00	1/64 A
14.30	1/32 B		15.00	1/32 A
15.30	1/16 B		16.00	1/16 A
16.30	1/8 B		17.00	1/8 A

#### Timetable Saturday

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

Start time	B leg Final		Start time	A leg Final
10.00	1/4 B		10.30	1/4 A

11.00 – 12.00 Practice for the 4 (four) direct qualified finalists

12.00 – 13.30 Lunchbreak

1/2 finals to be run over 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**

15.00 Drivers presentation to the public

15.15 Warm-up Practice

15.28 Trial start

15.30 Start

16.30 End of the race

16.40 Unofficial publication of result

17.00 End of protest time

17.10 Prize ceremony on the track

Sunday: To be used as spare day to allow for any delay in schedule. Banquet and Awards' presentation to be held on Sunday night. At the conclusion of the Banquet and Awards' presentation, Team Managers will be given a result folder showing the qualification results and the final positions, as a closing report.

## **2.10 RAIN SITUATION**

The Race Director will stop the racing if it rains. If there are delays due to weather, re-arrangements will be made as follows:

### QUALIFYING HEATS

2.10.1 In case of the interruption of a heat, the entire heat will be re-run.

2.10.2 **In the event of rain, the track must return to similar dry conditions as existed prior to any Stoppage before racing can re-commence.**

**The Race Director in consultation with Jury will determine if conditions are suitable and fair to re-commencement of racing.**

2.10.3 If a round of heats is started, it must be completed under the same conditions. If a round is halted due to rain or unforeseen circumstances and cannot be completed, this round will not be counted until the remaining heats in the round can be completed.

2.10.4 If weather and time permit and there is no time restriction on track use, every endeavour should be made by the Race Director to run as many of the maximum six (6) rounds of heats as possible.

2.10.5 A minimum of two (2) of the total of six (6) rounds must be completed.

## CHRISTMAS TREE FINALS

- 2.10.6 The lower finals up to the 1/4 finals will not be interrupted due to a wet track or rain.
- 2.10.7 In the event of rain during the 1/4 finals, if 50% of the race has been run before the rain, the race is declared. If rain falls before 50% of the race has been run, the results will be kept from the moment of stopping which will be the previous lap when the leading car crosses the finishing line. The new start will be given for the time which remains to complete the final. The two results will be added to give the final and definite placings. If the second start cannot be given for any reason, the results from the first part will be used as the final and definite placings.
- 2.10.8 In the semi-finals, if 75% of the race has been run before rain commences, the race is declared. If rain falls in the first 25% of the race, a total re-run will take place. If rain falls between the 25% and 75% mark, the total of the two (2) combined legs will be added together.
- 2.10.9 In the event of a semi-final being interrupted in this way, the top three (3) from each semi-final will advance to the final.
- 2.10.10 In the event of rain falling before the 25% mark where a complete re-start is required, drivers will be allowed to undertake maintenance on their cars.

## MAIN FINAL

- 2.10.11 If 75% of the main final has been run before rain commences, the race is declared. In the event of the main final being interrupted by rain where the two results will be added together (i.e. after the 25% mark), drivers may make repairs, re-fuel and change tyres before the re-commencement of the main final.
- 2.10.12 If weather will cause the spare day to be used for the quarter finals, semifinals, or the final then the final must commence prior to 15h00 on the spare day. If any final cannot be run safely, as determined by the International Jury, then the qualifying results will be used to determine the finishing positions for that final.

## 2.11 MATERIAL PROVIDED

### 2.11.1 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 (the number on each decal to measure not less than 57.15 mm/2.25in. high x 38.10 mm/1.5 in. wide with a stroke of 9.52 mm/.375 in.), 3 sets of numbers for the wing, 1 number for the transmitter, 1 badge for the driver, 1 badge for the mechanic and 1 badge for the country's Team Manager will be issued. Also included in the package there must be a sketch showing the correct positioning of the car numbers on the bodyshell.

### 2.11.2 NUMBERING OF CARS

Cars will be numbered 1 to 10 in each heat. Each car must have 3 numbers: - one on the front one on the right side one on the left side. 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. Number decals may not be trimmed to eliminate the background.

### 2.11.3 NUMBERING OF THE BODY/WING

The registration number (1-150, 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 must have his national flag on the left side of the body/wing of his car (when looking from the rear).

### 2.11.4 NUMBERING OF TRANSMITTERS

Every transmitter will have the competitor's number on it. (The same number as on the wing).

## 2.12 BADGES

## 2.12.1 DRIVERS, MECHANICS AND TEAM MANAGERS

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 (see Rule 4.22).

## 2.12.2 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

## 2.13 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. Limited quantity of transformers will be available, 12 V DC (limited) in starting area.

## 2.14 TRANSMITTERS

### 2.14.1 TRANSMITTER IMPOUND

Transmitter impound will start on the first day of the event. All transmitters must be placed in impound upon arrival at the track. Transmitters will be furnished to each competitor after completion of technical inspection and prior to their heat. All transmitters must be returned to impound by drivers following their heat, final or practice run. Transmitters in the pit area, or areas other than the drivers' stand and impound, during official competition hours, will cause disqualification.

### 2.14.2 TRANSMITTER INSPECTION

All transmitters **must be marked with a driver identification number** and only these transmitters, thus identified, may be used in the event. Transmitters are limited to the manufacturers' recommended voltage. External transmitter battery packs are not permitted.

### 2.14.3 USE OF 2.4GHz DSM/DSS SYSTEMS

These systems can be used, if permitted in the organising country. However, due to the way they operate, a driver using such a system cannot ask for any delay in case of radio problems.

## 2.15 LAP COUNTING AND TIMING

Automatic lap counting, with cumulative and split lap times, will be in place for each car. Competitors are required to install a small transponder into their cars according to the organiser's instructions. **An audio/video tape recording may be made for the purpose of future reference, disputes and or promotion.**

Every competitor is allowed to use his own IFMAR approved personal transponder if the lap counting officials are informed and agree.

If an organiser is using a personal transponder system, he has to provide to all participants, not having their own transponder, a transponder for every heat or final free of charge. It is strictly forbidden to ask for a rental fee. A deposit of the replacement value for the personal transponder may be demanded. If a competitor by any reason destroys or does not return a personal or normal transponder, he loses his deposit.

The driver has to ensure that his personal private transponder belongs to the marked chassis.

Significant stops (refuelling, tyre changes, crashes, etc.) will be noted with times of stop and restart. This record might not include every incident, however, its intent is to verify incidents, whenever possible.

AMB lap counting system or IFMAR approved equivalent must be used in duplicate. 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 round of heats within 15 minutes of the completion of the round of heats. Chronometers must give time to 1/100th of a second, in all cases, the hundreds will be utilised. In the case of equal results, the following best heat will separate the competitors. If both the primary and support lap counting systems 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.

## **2.16 DISPLAY AND DISTRIBUTION OF THE 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.

## **3 TRACK SPECIFICATIONS**

### **3.1 SURFACE**

Track surface should be unsealed asphalt or coarse finished concrete with smooth joints, if any.

### **3.2 LENGTH**

The minimum length is 200 metres/656 feet. Advised is 240-300 metres/787 - 984 feet.

### **3.3 WIDTH**

The minimum width of the track is 4.5 metres/15 feet between marking lines. The maximum width is 6.5 metres/ 21 feet. The marking lines must be 8-10 centimetres/3-4 inches wide.

### **3.4 PODIUM**

Maximum distance from the middle of the drivers' podium to the furthest point of the track is 60 metres/197 feet. Minimum height of the drivers' podium is 2.5 metres/8 feet from track level and the podium is at least 10 metres/33 feet long.

### **3.5 VISION**

No obstacles may interrupt the vision from the drivers' podium to all parts of the track.

### **3.6 MARKING**

A broken line may be painted in the middle of the straight to increase the vision.

### **3.7 PITS**

The refuelling and pit area should be clearly distinct and separated from the main track and as close as possible to the drivers' podium. Exit from and entrance to the main track is advised to be on a slow section of the track.

### **3.8 DESIGN**

Track design must include both right and left turns and must have a straight of minimum 60 metres/164 feet.

### **3.9 OUTSIDE BARRIERS**

Outside barriers must provide positive means of stopping a car when missing a corner or out of driver's control. The consideration at selection of the outside barriers shall be the protection of the spectators and not the cars, although, if both can be obtained, it is ideal. The outside barriers must be at least 40 centimetres/16 inches away from the marking lines of the track.

### **3.10 INSIDE BARRIERS**

Inside barriers must avoid short-cutting of corners or cars getting on other parts of the track. Inside barriers must be positioned and dimensioned to avoid cars flying over the outside barriers into the public. Inside barriers must be smooth and must be 20 centimetres/8 inches away from the marking lines on the track.

### **3.11 DOTS**

No dots will be used on high speed sections.

### **3.12 SURROUNDINGS**

The inner and outer surroundings of the track must have grass or other suitable materials, such as concrete. The object of these surroundings is to slow down the car that leaves the track. The car must be able to leave the infield or outfield on its own to minimise marshal assistance.

### **3.13 MARSHAL POSTS**

Marshal posts must be available for every 30 meters/100 feet of the track length. They may not obstruct the vision of the drivers. The posts must be numbered. When a post is located on dangerous part of the track (i.e. the straight or a fast corner), this post must then provide protection for the marshal (wall, tyres, gate, etc.).

### **3.14 STARTING LINE**

A start-finish line is to be painted across the track indicating the position of lap counting pickup loop; this must be in easy view of the timekeepers. The vision of the starting line may not be obstructed by the mechanics holding the cars or by the starter and starting equipment. The starting line must be located more than 10.00 metres/33.00 feet away from the first corner. Ten numbered boxes of 70.00-100.00 centimetres/27.00-40.00 inches long are painted with the starting line forming the front of all the boxes. The hold line for the mechanics is located 1.00 metre/3.30 feet behind the boxes.

### **3.15 LE MANS START**

For the "Le Mans" type starts, ten (10) numbered boxes are located on the side of the track at an angle of 20-45 degrees with the track, at a minimum of 2.00 metres/7.00 feet and maximum 4.00 metres/14.00 feet apart. The boxes must measure 70.00-100.00 centimetres/27.00-40.00 inches long and 30.00-40.00 centimetres/12.00-16.00 inches wide.

## **4 RACE PROCEDURES**

### **4.1 POSITIONING**

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.

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.

During qualifying heats only one (1) mechanic is allowed per car. During finals two (2) mechanics are allowed per car.

A team manager may be present during heats and finals to observe relay information and translate only, they must not assist in any way and must be positioned in way as to not obstruct or impede the movement of others

The use of all electronic communication devices between drivers and mechanics is banned during heats and finals.

### **4.2 GENERAL STARTING PROCEDURE**

HEATS -

4.2.1 There must be a five (5) minute gap between the end of one heat and the start of the next. Also a minimum of three (3) minutes must be allowed between the issuance of the transmitters and the start of the heat.

4.2.2 An audible warning will be given in English language at one (1) minute and at thirty (30) seconds.

4.2.3 A staggered start timing system will be used during qualifying. The cars will leave the starting boxes after the starting signal in the following order:

ROUND 1: 1 2 3 4 5 6 7 8 9 10  
ROUND 2: 3 4 5 6 7 8 9 10 1 2  
ROUND 3: 5 6 7 8 9 10 1 2 3 4  
ROUND 4: 7 8 9 10 1 2 3 4 5 6  
ROUND 5: 9 10 1 2 3 4 5 6 7 8  
ROUND 6: 10 9 8 7 6 5 4 3 2 1

Each individual official time will start when the car passes the timing system for the first time.

When the first car completes the first lap, all official timing not yet activated will be started.

#### SUB-FINALS AND FINALS

4.2.4 An audible warning will be given in English language at one (1) minute and at thirty (30) seconds.

4.2.5 From thirty (30) seconds until three (3) seconds the cars may be placed in the starting boxes. If a car is not in the starting box at the three (3) second mark, it must start from the pitlane after all cars have started officially.

4.2.6 From ten (10) seconds until three (3) seconds, time is counted down in English language, second by second.

4.2.7 At five (5) seconds, the starter will lower the starting flag and at three (3) seconds, the flag will be down, touching the ground. At this time, cars must be released by the mechanics who will all step back behind the hold line. **The cars must remain entirely within the start boxes with no part of the car touching or overlapping any part of the lines forming the box.**

4.2.8 From 3 seconds, the counting stops and the start signal will be given by the starter between 0 and 5 seconds. If the grid is not to the satisfaction of the starter, he may command a re-start, beginning count down from 30 seconds.

4.2.9 The official starting signal will be audible by means of a horn operated by the starter. This signal will also start the timing systems.

4.2.10 Early starts - ALL FINALS ONLY.

Early start (i.e. any car touching the starting line) will be penalised with a stop and go penalty. The duration of this stop and go penalty has to be determined at the Team Managers' Meeting and depends on the lap times. This penalty is issued by the starting official or the time-keeping official and has to be announced immediately after the start. The penalty will be marked on the result sheet.

4.2.11 Under no circumstances will the race be stopped due to a jumped start.

4.2.12 Only the Race Director may interrupt the race and order a restart in the event that he considers the starting procedures or the start were not carried out correctly.

4.2.13 **DELAYED START - A ten (10) minute delay can be called only prior to the starter calling the cars to the starting line at the 30-second countdown announcement. Only participants of the quarter-finals, semi-finals or final may request a delay. One only delay will be granted for each final. The track is shall be closed to all cars and all engines will be shut off for the duration of the delay period. The driver requesting the delay for whatever reason, except an error in frequencies by Race Control, must start off the back of the grid as directed by race control. The start position will be up to but not more than six (6) meters behind the last official grid position.**

**A 10-minute delay period can be reduced only if all drivers competing in the race are in full agreement.**

**The race schedule start will resume from the one (1) minute warm up countdown sequence.**

### 4.3 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 was 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.

### 4.4 TECHNICAL INSPECTION

Only vehicles which conform to all regulations will be accepted for racing. Technical inspection will be done on Sunday and Monday. 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, tyres, 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 carburettor.

Following method of measurement will be used:

- take off pressure lines
  - fill the fuel tank completely
  - remove fuel pipe from the carburettor inlet and make sure fuel line is full.
  - connect an air pump to the pressure nipple and measure fuel amount with a calibrated glass. The amount of fuel pressed into the glass will be considered as the total content of the fuel system.
- \* Only one car per driver will be accepted.
  - \* The chassis plate and the fuel tank of each car will be marked with the competitor's number.
  - \* Only one chassis may be used for all qualifying heats and finals. The only exception to this rule will be in the case of a broken or bent chassis which may

be changed with the Race Director's approval. The new chassis must be presented to technical inspection for marking before re-building the car.

#### **4.5 FREQUENCIES**

In the case of two drivers using the same frequency and qualifying for the same final, the higher placed driver may keep his frequency and the lower placed driver must change. The time allowed for frequency change will be ten (10) minutes. The lower placed driver who cannot or will not change his frequency may not take part in the final for which he qualified.

If a driver must change his frequency before the start of a semi-final or a final, due to an organiser's error, he will be allowed ten (10) minutes. If a driver finds his radio defective or has made an error in the selection of his frequency at the start of a final, the race will not be delayed.

For the entire duration of the event, the frequencies in use by all drivers will be known only by the Race Director and each individual driver.

All frequency changes must be authorised by the Race Director before the change is made.

The organiser shall not display any driver's transmitter frequency on any heat sheets, result sheet or race schedule to preserve the security of the frequency control systems. Each driver in the main final shall be permitted to change his frequency before the start of the race. Only the Race Director is permitted to know the frequency used by the main finalists.

#### **4.6 CAR NUMBERS AND LAP COUNTING TRANSPONDERS**

Only the numbers supplied by the organiser will be used on the cars. Each participant is responsible for attaching the lap counting transponder to his car. During qualifying, any car starting without a lap counting transponder will not be counted. If a lap counting transponder fails or falls off during the heats, the vehicle will be timed and counted manually, if possible. In this case, the Race Director will verify the results and his decision will be final. During the final, any car without a lap counting transponder will be counted manually by a manual back-up system. Under no circumstances will a heat or a final be re-run due to a car not having a lap counting transponder or failure of the same. This also applies to a car not having the correct numbers and placement of these numbers.

#### **4.7 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 authorise their use.

##### **4.7.1 USE OF THE BLACK FLAG**

For:

- Drivers who impede the progress of other participants
- Unsportsmanlike racing.
- Participants driving in a manner deemed to be dangerous by the Race Director
- Cars judged by the Race Director to be in an undriveable or dangerous condition. These cars, after the repairs have been carried out, may be allowed to resume.

- Cars which lose their bodies or silencers must immediately stop and carry out the necessary repairs after which they may restart.
- Cars which have been black flagged may re-enter only with permission from a Race Official.

## **4.8 RACING REGULATIONS**

### **4.8.1 PROTEST AGAINST A COMPETITOR OR THE ORGANISER**

Protest must be entered by the Team Manager, in writing, in English language, within ten (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.

### **4.8.2 REQUESTS FOR LAP COUNTING CHECKING**

Requests do not need to be written and need no deposit. The Team Manager will show to the Race Director the time-lap sheet in question (the one given or displayed by the organiser) and will indicate where he thinks an error has been made. The Race Director will resolve the problem by checking with the second lap counter and, if necessary, with the manual record of stops. The audio/video tape may be used as a last resort, if necessary, for the final result. If the request is justified, the result will be modified immediately and the Race Director will advise the Team Manager, in writing, of the result. After checking, if the Team Manager persists with his request, he will have to present a written protest within ten (10) minutes, including a \$50 U.S. deposit.

## **4.9 PENALTIES AND SANCTIONS**

During finals, participants will be allowed to change the bodies of the car with the authorisation of the Race Director, providing the bodies are of the same type and painted in the same colour scheme. 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 undriveable.
- The car in question may re-start after the repairs have been effected.

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 behaviour 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.

## **4.10 OFFICIAL ANNOUNCEMENTS**

All official announcements concerning the race must be made in the English language in the pit area, drivers' stand and mechanics' area.

## **4.11 OFFICIALS - REFEREES**

- 4.11.1 One IFMAR Referee will be appointed by IFMAR. Approved travel and accommodation expenses will be paid for by IFMAR, EFRA, ROAR, FEMCA and FAMAR equally. The IFMAR Referee will be supported by two (2) appointed deputy referees, one nominated and paid for by the host Bloc and one nominated and paid for by the host country's association (see General Rule 1.12). They must be experienced and unbiased people

with a good knowledge of the English language and the current IFMAR rules and will have acted as a referee at least on national level before.

4.11.2 The main task of the Referees is to observe the racing and, in particular, the good sportsmanship during the racing. They will ensure that the current rules are observed by everyone.

4.11.3 Referees may be called for information by the International Jury when a meeting is called by the Race Director.

4.11.4 Referees must be provided with an area from where all parts of the track, the drivers' rostrum and refuelling area can be observed.

The place must be separated from the drivers' area to ensure a quiet and undisturbed working area. Protection (walls, roof, etc.) must be given against all weather conditions. The place must be equipped with a minimum of three (3) chairs, a table and a monitor connected to the lapcounting system to show the race order.

There must be a separate communication system with a microphone and speakers direct to the drivers' rostrum and the pitlane to enable Referees' instructions to be heard only by the drivers and the mechanics in the pitlane. N.B. This system is to be totally separate from any public address system used for announcements.

The organiser is responsible for providing the Referees with lunch, refreshments and a ticket to the Awards' Banquet.

#### **4.12 REFEREES' DUTIES**

4.12.1 At all time, during qualifying heats, two of the Referees present will be watching and observing the racing from start to finish.

4.12.2 During finals, all three Referees will observe the racing from start to finish.

4.12.3 During qualifying, the Referees work on an alternative relief schedule.

4.12.4 Only Referees on duty are authorised to make decisions and to issue warnings and instructions.

4.12.5 A Referee may take action after an initial warning but, in all cases, three (3) warnings means automatic disqualification from the event. Any appeal against the Referee's decision must be brought before the International Jury accompanied by a protest fee.

#### **4.13 GUIDELINES REGARDING OFFENCES**

4.13.1 Bad sportsmanship during racing, i.e. impeding progress of other participants, deliberate slowing down or walling of another car, deliberate short-cutting of corners and reckless driving in general.

4.13.2 **Unsportsmanlike behaviour including language, actions or behaviour that is deemed unacceptable being exhibited by either the driver, their mechanics team managers or support persons.**

4.13.3 Incorrect use of entry and exit of the pits.

4.13.4 Repairs and refuelling outside the appointed pit area.

4.13.5 Mechanics going onto the track during the race.

4.13.6 Any combination of three warnings will cause disqualification.

4.13.7 Instructions may also be given by the Referees but they do not constitute a warning. Sample of instructions follow under numbers 8 and 9.

4.13.8 Cars that do not conform to the regulations before the start is given or during the race, (i.e. loss of body-shell, exceeding noise rules due to loss or damage of the silencer).

4.13.9 Cars that are in an undriveable or dangerous condition due to damage or malfunctioning of the car (one instruction).

4.13.10 Starting procedure, i.e. writing down early starts and, if necessary, reporting to the Time Keeper. The Time Keeper and the Starter are first responsible to issue starting penalties (one lap penalty). In the event of an early start not being observed, it may be called and noted by the Referee.

- 4.13.11 It is not the duty or the responsibility of the Referees to check if the cars conform to the technical rules. This is always the responsibility of the Technical Inspector.
- 4.13.12 All warnings will be announced in the English language with the words: "Car number .... Warning". All instructions will be announced in the English language with the words: "Car number .... Stop". Each competitor must be able to recognise the above English words and statements.

#### **4.14 REFEREES' AUTHORITY**

- 4.14.1 The Referees has the right to use his discretion to issue a penalty instead of a warning for any infringement of the rules.
- 4.14.2 **For pit lane infringements the referees have the right to issue penalties ranging from a stop go, to time in seconds to a one (1) lap penalty, taking into account the severity of the infringement or if there is a case of repeat offending.**
- 4.14.3 The IFMAR Referee has the authority to withdraw a World Championship badge (pass) from any person contravening the World Championship Rules or spirit of the World Championship Rules.
- 4.14.4 The IFMAR Referee has the authority to instruct other Race Officials to take remedial action in any situation which might compromise the well running of the race meeting. Any serious situation will be referred to the most senior IFMAR official present before taking any action.
- 4.14.5 The Referee issues warnings in case of infringements of any point as described under Rule 4.13 and ultimately may even issue a black flag (disqualification) when there is no response to his warnings.
- 4.14.6 Warnings and instructions are announced by the Referee himself. He will keep a record of the warnings and instructions used (Referee's notes). Three successive warnings lead to disqualification (black flag).
- 4.14.7 Instructions issued by the Referee must be observed immediately. All announcements must be made in the English language. Warnings will be posted on the result sheet.
- 4.14.8 Reasons for warning or instruction will be announced in the English language at time of issue. Further explanation, if necessary, due to language difficulties, will be given to the driver or the Team Manager at the end of the race.
- 4.14.9 Under no circumstances may a warning or an instruction issued by the Referees lead to the interruption of the whole race.
- 4.14.10 During the event, only if all three Referees agree, they will have the authority to black flag a driver and/or a whole team, if one member of that team is positively interfering with the racing of another car in the event.
- 4.14.11 Appeals to the decision of the Referee must be addressed to IFMAR in writing. IFMAR is not obliged to act on such a complaint.

#### **4.15 REFEREES' REPORT**

- 4.15.1 Referees make up a report to be sent to IFMAR within ten (10) days. The report contains information on the organisation, accommodation and the racing. The Referee's notes have to be included.
- 4.15.2 A copy of the report is sent to the Organiser of the race meeting. Copies may be obtained on application to IFMAR.

#### **4.16 TIME-KEEPING SUPERVISOR**

- 4.16.1 The Time-Keeping Supervisor is responsible for recording all the individual lap times and total laps plus finishing time of all drivers during all heats and finals. He is responsible for the classification of the results and for selecting of the finals. The Race Director must verify this classification and selection.
- 4.16.2 After the finish of any heat or final, the results of the first and second time-keeping systems are compared by the Time-Keeping Supervisor and, in case of difference between the two systems, the Time-Keeping Supervisor investigates both results and makes the decision of the final result.

4.16.3 In case of a request for checking of the results, the Time-Keeping Supervisor, together with the Race Director, will check on the questioned result and will make the decision.

#### **4.17 INTERNATIONAL JURY**

4.17.1 The International Jury consists of official representatives of each bloc, which will furnish a minimum of one representative and a maximum of three representatives to serve on the International Jury. Each Bloc will have a total of one (1) vote, regardless of the number of representatives it supplied.

4.17.2 The relevant IFMAR Section Chairman shall always act as Chairman during International Jury Meetings and exercise a casting vote, if necessary. In the absence of the relevant IFMAR Section Chairman, the highest ranking IFMAR official shall take the chair at any International Jury Meetings.

4.17.3 The Race Director and IFMAR President (see above) are members of the Jury but do not have a vote in the decisions. The Referees may be called by the Jury for opinions and explanations as deemed necessary. All decisions are taken by simple majority vote.

4.17.4 The International Jury may request evidence and/or presence of drivers involved or Team Managers.

4.17.5 Jury members must be approved by their organisation and a second person appointed to serve in the event of a temporary absence of the official representative.

4.17.6 Prior to the commencement of an International Jury Meeting, any mobile telephones in the meeting room must be turned off and placed on the meeting table until after the completion of the Meeting.

#### **4.18 RESPONSIBILITIES OF THE INTERNATIONAL JURY**

4.18.1 To decide in unforeseen situations.

4.18.2 To handle protests not covered by the Race Director's responsibility.

4.18.3 To make official by announcement any decisions voted on by the Team Managers' Committee providing the International Jury agrees with these decisions.

4.18.4 To check that the race is run according to the official rules.

4.18.5 The Chairman of the International Jury will make official the results of the World Championship through the ranking IFMAR Officer present at the event. When necessary, the Race Director calls the International Jury to meet. The International Jury may also be called by IFMAR.

4.18.6 The organiser will provide a room for the International Jury to meet where no-one can interfere with the meeting.

4.18.7 Jury members may not have dual duties or be a race official but may act as a Referee and IFMAR Delegate. The Race Director may appoint a stand-in Referee, if required.

4.18.8 Jury members may be participants in the event but must allow auxiliary jury representatives to serve and vote in any protest involving said jury member as a participant.

#### **4.19 RACE DIRECTOR**

4.19.1 The Race Director is responsible to follow the schedule of the event. The Race Director ensures that various tasks under his responsibility are well done, including:

- Time-keeping
- Starts
- Marshalling
- Display of results
- Comments to the public
- Comments to the drivers
- Technical inspection
- Frequency control

4.19.2 The Race Director receives the protests and decides if the International Jury has to meet. He takes urgent decisions or stops a race for safety, rain or any other unforeseen situation. He is under the authority of IFMAR.

#### **4.20 ASSISTANT RACE DIRECTOR**

The Assistant Race Director will represent the host country or organisation and will assist the Race Director in co-ordinating all race matters with host organisation officials.

#### **4.21 IFMAR TECHNICAL INSPECTOR**

4.21.1 A Technical Inspector will be appointed by IFMAR to supervise all technical inspection matters.

#### **4.22 TEAM MANAGERS**

4.22.1 The **Country** Team Manager, or a nominated deputy, must be present during all official racing.

4.22.2 Team Manager is appointed by his national association.

4.22.3 The responsibilities of the Team Manager are:

- To be present at the drivers' registration of his team.
- To be present at the Technical Control either before, during or after the end of the race in which his team members participate.
- To look after the welfare and behaviour of his team and take care that they all receive proper accommodation in the pit area.
- To attend the Team Managers' Meeting and any driver briefing/s that the Organiser may call.
- The Team Manager is the link between the national team and the race direction by receiving all information referring to timetable changes, frequency changes, results of heats, sub- finals and finals and all other information referring to the race.
- He is allowed to stay in the pit area when a race has a participant from his team and is in progress.

#### **4.23 TEAM MANAGERS' COMMITTEE**

4.23.1 Each country will have a Team Manager who is responsible to pass on complaints, protests or suggestions from his team to the Race Director. The Race Director will then decide whether a Team Managers' Meeting should be called to discuss and vote on the matter raised. If the Race Director does call such a meeting and the majority of the Team Managers support the matter raised, the Race Director must then refer to the International Jury for final decision.

### **5 TECHNICAL SPECIFICATIONS**

#### **5. TECHNICAL SPECIFICATIONS**

The official measurements in these Technical Specifications are the metric measurements.

5.1 The class run will be the 200mm Nitro Touring Car which will be 4WD. Only one (1) brake, working on the central power transmission, is allowed. No second or individual brake system(s) for front and/or rear axles or single wheels is allowed.

5.2 Maximum 2-speed gearbox allowed.

5.3 All cars must have a de-clutching device and have an operating brake capable of stopping the car and holding the car motionless with the engine running.

5.4 The engine may have a total capacity of not more than 2.11 cc. They shall be air-cooled, with front rotary valve, two-stroke induction. They engines may have a maximum of four (4) ports in the liner, including the exhaust port, seen with the piston at its lowest position.

No form of forced induction is allowed. No form of variable port timing.

Only glow plug ignition is allowed. The piston skirt may only be relieved for clearance of the crankshaft counterweight.

No additional openings in the piston. Additional slits or openings in the liner are allowed as long as they do not reach the top of the piston at lowest position.

Standard or conical glow plugs allowed.

The carburettor size is to be 5.50mm.

Prior to timed practice (starting on Monday), each competitor is allowed to have three (3) engines marked by the Technical Inspection Officer with the driver's registration number added with a 1, 2 or 3. These three (3) engines can be used throughout the event, including practice. They will not be sealed and can be maintained by the driver.

- 5.5 Engine capacity is to be maximum .12 (2.11cc) only.
- 5.6 Standard pull-start is optional.
- 5.7 Engine internal modifications are allowed as long as they are within the parameters of Rules 5.4 and 5.5.

5.8.1 **Homologated mufflers of a double chamber design in conjunction with a homologated inlet noise silencer boxes (INS box) must be used.**

For homologation purposes, each muffler will be tested with an engine at 40,000 rpm. The muffler may not produce more than eighty five (85) decibels measured at ten (10) metres distance and one (1) metre high. IFMAR's definition of a noise level is always final.

- 5.8.2 The muffler have to bear their homologation numbers during the entire competition.  
The mufflers' measurements (both internally and externally) have to conform with those on the homologation sheet issued by IFMAR.

5.8.3 Mufflers can be checked and may be cut open at the completion of a qualifying heat and/or final and checked for compliance with homologation drawings submitted to IFMAR.

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

5.8.5 The IFMAR Muffler List will be published on the IFMAR website and Organizer's website two (2) months prior to the event.

5.8.6 The IFMAR Muffler list , with detailed drawings, must be available in Technical Control.

5.8.7 The outlet or tailpipe of the muffler must project horizontally or downward. No upward or vertical exhaust outlets are allowed.

Tail pipe maximum internal diameter\* 5.20mm.

Tail pipe minimum length 10.00mm.

\* This dimension includes a tolerance to account for manufacturing variations in commercially available tubing.

- 5.9 Minimum weight without fuel: 1725.00 grams (including transponder).
- 5.10 Fuel tank capacity to be 75.00cc including all fuel tubing, filters, etc. No loose inserts allowed inside the tank.
- 5.11 Bodies must be a 1:10 scale in character reproduction of touring car (sedan) 2 and 4-door vehicles that exists ore have existed, and raced in an international Touring Car series

For homologation purposes, the bodies dimensions will checked according the Global Body Specifications.

Bodies may be homologated by ROAR,EFRA, FEMCA or FAMAR up to four (4) months before the event.

This combined list will be made available by IFMAR to the organiser for inclusion in the Stage II Report. For technical inspection it is necessary that all body shells on the list can

be identified by means of a manufacturer's and/or homologation number issued by a Bloc. This number must be moulded in at the lower edge of the windscreen.

5.12 The front bumper must follow the body contour and must be constructed so as to minimize injury that may result from being hit by a car. The bumper must be made from foam rubber or a flexible plastic material.

5.13 The body must be made from a flexible material and be painted properly. All windows must remain clear and not be painted over or be semi-transparent.

5.14 Bodies are not to be cut above the lower bumper line at the front or the back or above the bottom line of the doors. Rear of the body may not be cut away higher than 50.00 mm measured with a 10.00mm spacer under the chassis plate. Details of all front and rear lights, grills, air intakes and windows must be clearly contrasted from the surrounding paintwork.

5.15 Only the following openings and sizes are permitted in the body shells.

Only one opening may be made in the front screen with a maximum dimension of 60mm in any direction not intruding into the roof or bonnet.

An additional opening of 50 mm may be made above the fuel filler cap when viewed from above. The minimum distance between any openings is 5 mm.

An opening with a maximum diameter of 35mm is allowed just above the cooling head for easy glow plug access and cannot be combined with any other hole.

Additional non-mounting openings may be made for exhaust, transponder, radio antenna and carburettor access.

5.16 Roll-bars (roll-over bars) must be kept under the body.

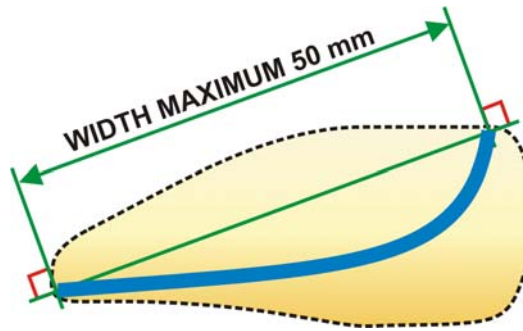
5.17 Only the muffler outlet, antenna and body posts may protrude outside the body shell.

The shape of the exhaust pipe has to be of a straight circular rotated type. Any other shape like oval, bent or any other form that is not reproducible by a lathe is not allowed.

5.18 Under body/chassis aerodynamic aids of any nature are not allowed.

5.19 General Dimensions: -Minimum (mm) -Maximum (mm)

Wheelbase	230.00	270.00
Width (without body)	170.00	200.00
Width (with body)	175.00	205.00
Length (including body and wing)	360.00	460.00
Height (to top of roof measured with a 10.00mm spacer under the chassis plate on level)	120.00	175.00
Wing width inclusive	125.00	200.00
Wing width	-	50.00
Wing endplate 35.00mm x 50.00mm – equal size		
Wing overhang (at rear)		10.00
Wheel diameter (excluding tyre bead)	46.00	50.00
Wheel width (including bead)	-	30.00 + 1mm tolerance
Tyre width (across sidewalls)	-	31.00



- 5.20 One (1) wing and one (1) spoiler may be mounted to any car (if the original full-size car had more, it is allowed to do the same). Wing and spoiler must be made from a flexible material. Wing and spoiler must not be fixed to body with piano wire. Basically, they must be mounted to body directly. Wing and spoiler may not protrude outside the maximum height and width of the body (including the side dams). Rear wings must be mounted in the same place as was intended by the body manufacturer. The overhang must not exceed 10.00mm at the furthest point, to be measured from **the bumper**.

The height of the wing may be adjusted but the wing, including endplates must not extend higher than the roofline. Wings (excluding endplates) are to be of single moulded construction (no flat-packs/bend your own). Total chord of wing is 50.00mm.

- 5.21 Foam and/or rubber tyres may be used. Any materials used in, or on, the tyres must not damage the racing surface. Treatment of the tyres with additives is prohibited.
- 5.22 Fuel: A controlled commercially available fuel containing methanol, oil lubricant and nitromethane (with a maximum of 16% measured in volume), decided by the IFMAR I.C. Executive must be used.
- 5.22.1 The manufacturer who was selected to supply the fuel for the previous IFMAR 1/10<sup>th</sup> I.C. 200mm World Championship event is not eligible to supply fuel for the next IFMAR 1/10<sup>th</sup> I.C. 200mm World Championship event, unless there are no other alternatives.
- 5.22.2 The type of fuel is decided by the IFMAR I.C. Executive, together with the race organiser (race organiser 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 eight (8) months before the event. The final decision will be made six (6) months before the event by a majority vote of the IFMAR I.C. Executive and all Blocs will be notified of the decision.
- 5.22.3 The recommended types of fuel must be commercially available at the time of the organiser's recommendations, (eight (8) months prior to the event) and remain available up until the final decision six (6) months prior to the event. The selected fuel must continue to be commercially available in the period from six (6) months prior to the event up until the commencement of the event.
- 5.22.4 An amount of \$US20 will be added to each entry fee to cover the additional cost of official event fuel.
- 5.22.5 Practice: For practice and pit running purposes only, all competitors must be able to purchase at the event a minimum of ten (10) litres of the controlled fuel at standard commercial rates.
- 5.22.6 Racing: At the commencement of official qualifying, the controlled fuel must be used for running on the track. This fuel is to be maintained by the organiser, in **consultation** with the IFMAR representative, within the controlled pitlane area. This controlled fuel must be identical to the fuel sold to the competitors for the practice period.
- 5.22.7 All mechanics, team managers and cars will be checked for compliance for the rules when entering the controlled pitlane, i.e. **no fuel, fuel bottles or fuel guns may brought into the pit area and cars must have empty tanks when entering.**

**Upon entering the pit area, mechanics can retrieve a fuel bottle and their fuel gun if they have one stored in the area.**

It is the mechanic's responsibility to ensure they fill the bottles from the fuel containers provided in the pit area for both heats and finals.

- 5.22.8 At the completion of the heat/final, all fuel bottles, fuel guns and containers of fuel must be returned to their heat's storage area.
- 5.22.9 At no time may fuel bottles, fuel guns or containers of fuel be removed from the controlled pit area once official racing has commenced.
- 5.22.10 Any infringement of these rules by a mechanic/team manager/driver or any associated person will cause that driver to be excluded from the event. Further punishment to be determined by IFMAR, such as a ban from future international racing.
- 5.22.11 Controlled Pitlane Area: It is suggested that the organiser build this area in a way that eliminates opportunities for contact with persons outside the controlled pitlane area.
- 5.23 The aerial support must be flexible. Carbon, GRP, steel, etc. are not allowed.
- 5.24 Only two (2) servos are allowed. Frequency must be legal as specified by Race Director. Drivers must have more than one (1) frequency available. Under no circumstances shall a transmitter be taken onto the track.
- 5.25 The use of electronic gyroscopes is not allowed.
- 5.26 All measurements referred to in these rules are maximum or minimum values.
- 5.27 Not allowed:
- "Pressurized" braking systems including pneumatic or hydraulic systems. Only mechanical, single braking units such as those already in use on the rear or midshaft axle.
  - Liquid cooled engines
  - Hydraulic systems
  - More than 2 servos
  - No more than 3-speed transmissions.
  - Quick-change wheel systems are not allowed. Wheels must be fixed by a screw or nut that must not extend beyond the exterior of the wheel rim.

## 5.28 TELEMETRY & DRIVERS' AIDS

- 5.28.1 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.
- A passive data recording or information system to record functions of the car can only be used up to the end of controlled practice.
- 5.28.2 The use of traction control devices, active suspension devices and any steering control aided by gyroscopes/'G'-force sensors is strictly forbidden. The use of on board data recording sensors or data transmission devices is not permitted. It is the object of this rule to ensure that the IFMAR 1/10th I.C. 200mm Nitro Touring Car Circuit World Championship be a test of driver skill.

### The Rules was:

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## FINISH