INTERNATIONAL FEDERATION OF MODEL AUTO RACING

a.i.s.b.l.

IFMAR 1/5th I.C. TRACK RACING AND TECHNICAL RULES

INDEX

AMENDED APRIL 2011
AMENDED JANUARY 2012
AMENDED APRIL 2013
AMENDED APRIL 2015
AMENDED March 2019
AMENDED November 2019
Amended March 2022
Amended January 30st 2024
Amended February 2026

IFMAR 1/5th SCALE I.C. (GAS) CIRCUIT RACING AND TECHNICAL RULES

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

2. RACING FORMAT

2.1 SCHEDULE

The IFMAR World Championship for 1/5th Touring cars will be run over a period of six (6) racing days, excluding a spare day. First Sunday can be used for registration. WC Tracks must be closed for Large Scale Racing, two weeks prior of the event. No cars are allowed on the track before Monday morning. The schedule for the event must be submitted to IFMAR for approval.

2.2 EVENT SCHEDULE

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. 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 approximate time schedule for the event for 15 heats (150 drivers) will be as follows:

Monday 09:00-18:00 Controlled practice (in full heats made by the organizer/IFMAR), 8 minutes maximum per heat.

Tuesday 09:00-18:00 Controlled practice (in full heats made by the organizer/IFMAR), 8 minutes maximum per heat and timed practice, technical inspection (a minimum of the car/body checked and marked; engine marking is optional)

Wednesday 09:00-18:00 Qualification heats, 10 minutes heats + warm-up and rolling start

Thursday 09:00-18:00 Qualification heats, 10 minutes heats + warm-up and rolling start.

Friday 09:00-18:00 lower finals. Format finals, 15 minutes up till 64th, 20 minutes for 32th till ¼.

Saturday 09:00-17:00 ¼ finals (20 minutes), semi-finals (30 minutes + last lap) and final (60 minutes + last lap). Prize giving ceremony and banquet.

Sunday, Spare Day – to be used to allow for any delay in the schedule.

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. They must be able to understand and speak English.

2.4.3 Further Team Managers' Meetings are recommended but are called only by the most senior IFMAR officer at the track or, in his absence, by the Race Director.

2.5 TECHNICAL INSPECTION

Technical Inspection will be held on Monday and Tuesday 08.00 until 18.30 in provisional heat order, before qualifying starts. 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 controlled practice on Monday and Tuesday. The arrangement of the free practice heats will be created from drivers previous meeting results, known ability and common sense by the organizer/IFMAR.
The arrangement of the heats and numbering will be done using common sense and a driver best 3 consecutive laps. The drivers must stand adjacent to their numbers on the rostrum, the mechanics must remain in their boxes along the pit lane. For all finals, drivers with the lowest starting numbers may choose their position on the rostrum and the mechanics must stand under the driver where this is possible. There will be a timed practice for drivers in their published heats on Wednesday, ten (10) minute practice heats beginning at 08.30 hours *and 3 consecutive laps from the timed practice will be used for the heat seeding.*

2.7 OPENING CEREMONY

An Opening Ceremony will take place on Tuesday afternoon. The time must be published in the time schedule. Competitors will participate in a welcoming procession. Each national team is asked to wear similar shirts. A flag or flag-sign and sign bearing the name of each country will be provided by the organiser for each team.

2.8 QUALIFYING HEATS

There will be a Minimum of 4 and a Maximum of 6 series of 10 minutes heats depending on the number of drivers. The number of series, time schedule and heat order to be announced prior to the first round of qualification.

If there are 60 drivers or less, 6 rounds.

If there are >60 - <80 drivers, 5 rounds.

If there are more than 80 drivers, 4 rounds.

When there are less as 80 (or after consulting IFMAR) drivers for the touring car class and an additional supporting class can be allowed. Priority can be given to the official touring car classes in case of bad weather.

Both the Open and Sport Touring car classes, the no. 1 and 2 ranked drivers after completion of the qualifying heats will move up directly to the main final and take first and second position on the starting grid respectively. Prior to the semi-finals, all direct qualifiers will have a 10-minute practice session (10 minutes for each class)

Sub-Finals: The first 3 drivers from each sub-final progress up to the next final.
Semi-final: The first 4 drivers from each semifinal ranking will progress up to the main final in alternating order from each semi-final (ie, 1st place from semi-final A will be 3rd on the grid, 1st place from semi-final B will be 4th …etc etc) .

- There must be a 3 min. gap between the end of one heat and the start of the next heat.
- During qualifying an audible warning will be given at 1 minute and again at 30 seconds prior to the official start, in English and other languages as appropriate.

STARTING PROCEDURE OF HEATS
For qualifying heats no stop between practice time (warming up) and start of the heat. Just start the clock when practice time is over. (Flying start.)
-1 If the number of heats differ from 10, or if the event is planned with more/less rounds, a sequence following this general scheme has to be used.

Round 1: heat order, 1,2,3,4,5,6,7,8,9,10	or	1 >>>15
Round 2: heat order, 4,5,6,7,8,9,10,1,2,3	or	4>>15, 1>>3
Round 3: heat order, 7,8,9,10,1,2,3,4,5,6	or	7>>15, 1>>6
Round 4: heat order, 10,9,8,7,6,5,4,3,2,1	or	15>>>1

Qualification Order and Finals.

-1 During the warm-up period, or at any other time of a race in progress, deliberate stopping a car on the race track will lead to be penalized with a 10 second ”stop and go” after the start of the race. Consecutive stopping on the race track will lead to immediate disqualification.

-2 Touring Cars: 10-minute qualifying runs (plus the last lap and time of the last lap). The single best 10-minute run out of the Qualifying rounds will be used to prepare the list for the finals.

-3 Radio communication between driver and pit lane is allowed but only one pair of headsets to be used and they can only be used by the driver on the rostrum and the mechanic in the pit lane.

2.9 FINALS

All sub-finals and final consist of ten (10) drivers or if IFMAR approval is granted, up to a maximum of fifteen (15) if the track and facilities permit. The number of drivers in the "Christmas Tree" finals must be published in the Stage II Report.

- For all sub finals and main finals, a "Formula 1" type grid start will be used with each grid start position spaced a minimum of 5 meters apart.
- For all finals, the track will be opened 5 minutes prior to the start of the final. At 2 minutes to go all cars will be called back into the pit lane and re-fueling is allowed. All refueling must be done through the fuel tanks screw on or flip top fuel cap. At 45 seconds to go the cars are called to the start line, all cars will leave the pits in number order and drive round the track to their respective starting positions. The 10 second count-down will commence within 5 seconds of all cars being stationary in their correct grid position. If a car has not left the pit lane at 30 seconds due to unforeseen problems, the car may start from the pitlane after the other cars have officially started. The race director and referees will monitor the pitlane for the abuse of this facility.

- From 10 seconds until 3 seconds prior to the start a second-by-second countdown will be made in English.

- From 3 seconds the verbal count down stops and the actual start-signal will be given by the Starter after a period of between 0 and 5 seconds has elapsed. If the grid is not to the satisfaction of the Starter, he may require a re-start, re-commencing the count down.

- The official start signal will be audible by means of a hooter, operated by the Starter. This signal will also start the Timing Systems.

- Early starts (i.e. any part of the car touching the starting line), will be penalized. (10 sec. up to 1lap) This penalty is issued by the Starting Official or the Time- keeping official and must be announced immediately after the start. The penalty will be marked on the result sheet.

- Under no circumstances will the race be stopped due to a jump start.

- The Starter may only interrupt the race and make a re-start in the event that he considers the starting procedure or the start was not carried out correctly.

- Delayed start. As long as the starter has not called the cars to the start line, any participant of the semi-finals and final may request a delay of 10 minutes to carry out repairs on his car. This delay can be granted only once for each semifinal and final. - the track is closed, if the delay is requested as a result of frequency or radio problems - the track is open, if the delay is requested for mechanical repairs or problems. If a driver is asking for a delay on frequency problems, the mechanics are only allowed to turn off engine and receiver. They are not allowed to make any repairs including change of tyres. At the end of the 10-minute delay period, a complete new warm up time and start procedure will begin.

- When the starter calls the main final to the start line, the mechanics are not allowed to refuel the cars.

- The driver asking for the delay for whatever reason, except an error in frequencies of the race control, must start from the pit lane.

When the time is over, an audible signal is given. A car finishes when it passes the finish line after the finish-signal is given. The car must immediately return to the pits and may not hinder other cars still racing.

In case of doubt (on the finish-line when time is over), a car may race one more lap and finish. Whether he finishes or not when time was completed, is up to the Time-keepers and cannot be disputed.

After returning to the pits, the engine must be stopped immediately and the transmitter turned off and impounded.

“Christmas Tree” System for 150 entries, one class (10 drivers, 12 in first final).

A leg	FINAL 60 minutes	B leg
1st, 2nd, 3rd, 4th	TQ + number 2	1st, 2nd,3rd, 4th
3, 5, 7, 9, 11, 13, 15	**1/2 30 minutes**	4, 6, 8, 10, 12, 14, 16
1st, 2nd , 3rd		1st, 2nd, 3rd
17, 19, 21, 23, 25, 27, 29	**1/4 20 minutes**	18, 20, 22, 24, 26, 28, 30
1st, 2nd, 3rd *		**1st, 2nd, 3rd ***
31, 33, 35, 37, 39, 41, 43	**1/8 20 minutes**	32, 34, 36, 38, 40, 42, 44
1st, 2nd, 3rd *		**1st, 2nd, 3rd ***
45, 47, 49, 51, 53, 55, 57	**1/16 20 minutes**	46, 48, 50, 52, 54, 56, 58
1st, 2nd, 3rd *		**1st, 2nd, 3rd ***
59, 61, 63, 65, 67, 69, 71	**1/32 20 minutes**	60, 62, 64, 66, 68, 70, 72
1st, 2nd, 3rd *		**1st, 2nd, 3rd ***
73, 75, 77, 79, 81, 83, 85	**1/64 15 minutes**	74, 76, 78, 80, 82, 84, 86
1st, 2nd, 3rd *		**1st, 2nd, 3rd ***
87, 89, 91, 93, 95, 97, 99	**1/128 15 minutes**	88, 90, 92, 94, 96, 98, 100
1st, 2nd , 3rd *		**1st, 2nd, 3rd ***
101, 103, 105, 107, 109, 111, 113	**1/256 15 minutes**	102, 104, 106, 108, 110, 112, 114
1st, 2nd, 3rd *		**1st, 2nd, 3rd ***
115, 117, 119, 121, 123, 125, 127	**1/512 15 minutes**	116, 118, 120, 122, 124, 126, 128
1st, 2nd, 3rd *		**1st, 2nd, 3rd ***
129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149	**1/1024 15 minutes**	130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150

* All sub-finals, first three go forward.

Timetable depends on number of drivers and supporting classes and can vary.

Example for 2 classes and 150 drivers in total, Friday lower finals up till 1/8th.

Saturday: 1/4 finals, semies and main final(s).

09.00 1/4th B Sport

09.30 1/4th A Sport

10.00 1/4th B Open

10.30 1/4th A Open

11:00 practice direct finalists from both classes, 10 minutes

1/2 finals to be run over 30 minutes.

11.15 1/2nd B Sport

12.00 1/2nd A Sport

12.45 1/2nd B Open

13.30 1/2nd A Open

Main final 1 hours

15.00 Main final Sport

16.30 Main final Open

CHAMPIONSHIP FINAL TO BE RUN OVER ONE (1) HOUR.

All ten (10) finalists will be allowed a maximum of 700ccm of fuel in an unbreakable fuel bottle for refuelling halfway their 60 minutes final. The organiser must provide fire extinguishers and fire-blankets in the pit area with easy access for all mechanics. The organiser must have a minimum of two (2) specially-trained fire personnel in the pit-lane during the final.

Cars must be removed from the pit lane to the table and mechanics have to stop the engine, minimum during 90 seconds, and switch off radio equipment. Then they have to take off the body shell completely before they start re-fuelling. Fuel tanks will be checked after the final for capacity.

* Drivers' presentation to the public
* Warm-up Practice
* Start
* End of the race
* Unofficial publication of result
* End of protest time
* Prize ceremony on the track

2.10 RAIN SITUATION

In case of different weather conditions during sub-finals the final classification will be as follows: Place 4 of sub-final A and Place 4 of sub-final B will both be awarded place 11th equal in the general classification. Place 5 of sub-final A and place 5 of sub-final B will both be awarded place 13th equal in the general classification and so on.

2.11 RACE INTERRUPTIONS

1 In the case of a race which is interrupted for more than sixty (60) minutes for reasons beyond the control of the organiser, the Jury will decide whether to cancel or continue the meeting.

2 In the case of an interruption of a heat the entire heat will be re-run.

3 In the case of an interruption of sub-final or a final the following procedure will be used:

A. If less than 10 minutes of a final has been run, the results will be cancelled and a new start given for the total time of the final. Vehicles may be repaired before the new start.

B. If more than 10 minutes of the final have been run, the results at the moment of the interruption will be kept. 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 definitive placing. If the second start cannot be made for any reason, the results from the first part will be used as the final and definitive placing.

C. When the interruption takes place after 75% or more of the race is past, the results as at the time of the interruption becomes the final result. At the moment of the interruption of the race, the drivers will leave their vehicles on the start-line under the control of the Race Director. They may switch off the radio and stop the engine. There will be no repairs carried out to the vehicle or changing of tyres. Any driver who does not observe this rule will be immediately disqualified.

2.12 RAIN PROCEDURE DURING QUALIFYING

1 The Race Director and the Referees are jointly responsible for the decision to stop a race in the event of rain.

2 On the result sheets the Race Director or the appointed official must mark a heat “WET” when the heat was raced under wet conditions. On the corresponding record sheets, this must also be marked. The Race Director together with the Referees will decide in case of doubt. Heats are generally considered to be “WET2” when average lap times are approximately 20% slower than before, due to rain or moisture on the track.

3 When all drivers have had at least one dry heat, all results will be counted.

4 When weather and time permits, with intention of equalising opportunity, the Race Director may decide to schedule or re-schedule qualification heats to allow those affected by wet conditions to participate in dry conditions.

5 When not all drivers have had a chance to run a dry heat, only the wet results will be counted.

6 When continuation is judged to be senseless, or when other drivers should be offered a fair chance to drive under dry conditions, the Race Director together with the Referees may decide to end a heat or cancel a complete heat (2.11 -1).

2.12.1 ACCIDENTS and CRASHES.

A yellow flag situation will be announced, if an accident occurs. (This must be a yellow flashlight combined with an audible signal, that can be operated by the referees and the race-director) During the yellow period overtaking other cars is not allowed. Cars are required to slow down so that they can stop immediately.

Disregarding this rule will be penalized by deducting one lap from the result of the driver concerned in that particular heat, sub-final or final. An official warning has also to be issued. Racing will recommence at racing speed following display of a green flag or the official announcement” track is clear”. Signals given by flags have to be visible for all drivers.

Mechanics are allowed to enter the track to save the car of their driver. The mechanic may restart the engine (3x) beside the track, but not repair the car. The mechanic may not disturb the progress of other cars in the race.

Mechanics or Spectators entering the track from outside the pit lane to save a car will produce a penalty for that particular car. (Penalties can be given as stop and go or one lap penalty. The referees will inform the Team Managers about the sort of penalty given.)

If serviced by a spectator then the car should remain stationary until touched by a mechanic to save a penalty given.

The duration of a stop and go penalty given must be always as long as decided by the Referees and announced during the Team Managers meeting prior to the race-meeting. It is not allowed for any of the race officials to change the time of the stop and go penalties during the race meeting.

The driver has three laps time to come in.

Three stop and go penalties for one car during one race will lead to disqualification (black flag).

2.13 MATERIAL PROVIDED

2.13.1 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 – black on white (each number to measure a minimum of 7 cm/2.75 in. wide x minimum of 9.50 cm/3.74 in. high with a stroke of minimum 15.00 mm/.590 in.)

3 sets of numbers for the wing

1 number for the transmitter

1 badge for the driver showing his passport-size photograph, 2 badges for the mechanics and 1 badge for the country's Team Manager will be issued.

2.13.2 NUMBERING OF CARS

Cars will be numbered 1 to 10 in each heat.

Each car must have 3 numbers: - one on the motor-hood
one on the right front door
one on the left front door.

It is not allowed to place them on windscreen or front side windows.

These numbers may change after timed practice and Round 2 of Qualifying, because of seeding, re-seeding.

The organiser will provide other numbers for altered heats and for sub-finals and final. Drivers must use numbers provided by the organiser with no modifications.

2.13.3 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).

2.13.4 NUMBERING OF TRANSMITTERS

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

2.14 BADGES

2.14.1 DRIVERS, MECHANICS AND TEAM MANAGERS

Three badges will be given to each competitor, blue for the driver, yellow for the mechanics. The designated Team Manager from each country will receive an orange badge upon registration of his drivers (see Rule 4.I7).

2.14.2 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

2.15 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 90 x 150 cm (3 x 5 feet) table space.

Pits are equipped with either 120 V/60 or 220 V/50 AC.

2.16 TRANSMITTERS

2.16.1 TRANSMITTER IMPOUND

With 99% of the drivers using 2.4GHz DSM/DSS systems, NO radio impound is 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 form 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 feel the request is valid and is required for safety.
No delays or protests will be accepted due to radios not being impounded.
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.

2.16.2 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.

2.16.3 USE OF 2.4GHz DSM/DSS SYSTEMS

Use of 2.4GHz DSM/DSS systems. These systems can be used, if permitted in the organizing country. However, due to the way they operate, a driver using such a system cannot ask for any delay in case of radio problems.

2.17 LAP COUNTING AND TIMING

See General WC rules.

2.18 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 250 metres/820 feet. Advised is 300-350 metres/984 feet-1148 feet.

3.3 WIDTH

The minimum width of the track is 4.5 metres/l5 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/l97 feet.

Minimum height of the drivers' podium is 2.5 metres/8 feet from track level and the podium is at least l0 metres/33 feet long. (10 Drivers)

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. A fire-extinguisher is mandatory.

Exit from and entrance to the main track is advised to be on a slow section of the track. Drivers have to reduce speed while entering the pit area.

3.8 DESIGN

Track design must include both right and left turns and must have a straight of minimum 60 metres/l64 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/l6 inches away from the marking lines of the track.

A solid fence of one (1) metre/3.30 feet in height must be placed behind the outside barriers made from a material to stop an out-of-control car.

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 cm/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 STARTING LINE

A starting line must be painted across the track, preferably in front of the time keeping. The starting line must be located more than 10 metres/33 feet away from the first corner.

3.14 FORMULA 1 START

The grid will be painted on the track, preferably on the straight. Two (2) rows of numbered boxes will be located on the track with approximately 2.5 metres-3 metres/

8.20 feet-9.84 feet space between each row. On one (1) side, the boxes will be numbered 1, 3, 5 etc. and on the other side 2, 4, 6 etc. No. 1 box is situated

3 metres/9.84 feet in front of No. 3; No. 2 stands 3 metres/9.84 feet in front of No. 4 etc. The boxes should have a width of 50 centimetres/19.68 inches.

4. RACE PROCEDURES

It is not allowed to drive a model car on any other place than the track and the marked pit lane.

4.1 POSITIONING

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. l qualifier has first choice, No. 2 qualifier has second choice, etc. During qualifying heats only one (1) mechanic is allowed per car. During Sub-Finals and Main Final, two (2) mechanics are allowed per car.

4.2 GENERAL STARTING PROCEDURE

HEATS -

4.2.1 There must be a 3-minute gap between the end of one heat and the start of the next.

4.2.2 An audible warning will be given in English language at 1 minute and at 30 seconds during the warm up period. At the starting time an audible and visible signal will be given for a rolling start.

SUB-FINALS AND FINALS

4.2.3 For all Finals, the track will be opened 5 minutes prior to the start of the Final. At 2 minutes to "start" all cars will be called back into the pit lane and re-fueling is allowed. At 45 seconds to start" the cars are called to the start line; all cars will leave the pits in number order and drive round the track to their respective starting positions. The 10 second count-down will commence within 5 seconds of all cars being stationary in their correct grid position. If a car has not left the pit lane at 30 seconds due to unforeseen problems, the car may start from the pit lane after the other cars have officially started. The race director and referees will monitor the pit lane for the abuse of this facility.

4.2.4 From 10 seconds until 3 seconds prior to the start a second-by-second countdown will be made in English.

4.2.5 From 3 seconds, the counting stops and the start signal must 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.

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

4.2.7 Early starts - ALL FINALS ONLY.

Early start (i.e. any car touching the starting line) will be penalised with a ten (10) second top and go penalty.

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.

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

4.2.9 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.

4.2.10 DELAYED START -

As long as the starter has not called the cars to the starting line, every participant of the quarter-finals, 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 quarter-final, semi-final and final.

The driver requesting the delay for whatever reason, except an error in frequencies by Race Control, must start from the back of the grid (last position).

The track shall be closed to all cars during the delay period. When the frequency problem was created by Race Control, the driver keeps his starting position.

4.3 MARSHALLING/ACCIDENTS/CRASHES

a) A yellow flag will be shown and announced, if an accident occurs. (This must be a yellow flash-light combined with an audible signal, that can be operated by the Referees and the Race Director). During the yellow period overtaking other cars is not allowed. Cars are required to slow down so that they can stop immediately. Disregarding this rule will be penalised by deducting one lap from the result of the driver concerned in that particular heat, sub-final or final. An official warning has also to be issued.

Racing will recommence at racing speed following display of a green flag or the official announcement "track is clear ". Signals given by flags have to be visible for all drivers.

b) One mechanic for each driver is allowed to enter the track to save the car of his own driver. The mechanic has a maximum of three (3) attempts to restart the engine beside the track, but not repair the car. The mechanic may not disturb the progress of other cars in the race.

Mechanics or spectators entering the track from outside the pit lane to save a car will produce a penalty for that particular car. (Penalties can be given as stop and go or one lap penalty. The Referees will inform the Team Managers about the type of penalties given). If served by a spectator then this car should remain stationary until touched by the mechanic to save a penalty being given.

c) Closed shoes to be worn by all mechanics.

4.4 TECHNICAL INSPECTION

Only vehicles which conform to all regulations will be accepted for racing. Technical inspection will be done on Tuesday and Wednesday. 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. Technical inspection may take place at the finish of any 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.

Any infringement concerning engine, fuel tank and weight will cause disqualification from a driver's best qualifying heat or a final. The disqualified driver's position will be shown as the last position in that heat or final for the first infringement.

A second infringement concerning any one of engine, fuel tank or weight will cause total and immediate disqualification from the entire 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 infringement, other than those concerning engine, fuel tank and weight, 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.

Under all circumstances it is the responsibility of the driver, that his car is within the IFMAR rules during a race meeting. If a car is found illegal during heats, semi-finals or final, its result will be made void and the car has to stay in technical inspection until the result is published and the protest time is over.

All cars must be fitted with a clutch, a braking system, an air box to reduce the intake noise of the carburettor and a three-chamber exhaust.

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:

The fuel tank must be empty. A measuring cylinder (DIN) of 700ccm will be filled with the competitor's fuel. Then this fuel will be placed in the tank. If the tank is not filled completely, the technical inspector will not accept that tank.

* Only one car per driver will be accepted.

* The chassis plate and the engine 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 of the same type must be presented to Technical Inspection for marking before re-building the car. The old one will be stored in technical inspection until the end of the competition.

4.5 FREQUENCIES

Not applicable any more with the use of 2.4Ghz

4.6 LAP COUNTING TRANSPONDERS

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, overtaking forbidden. (Must be a yellow flash-light visible for all drivers on the rostrum))
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

- Drivers who impede the progress of other participants
- Unsportsmanlike racing and behaviour of driver/mechanic
- 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 found exceeding the IFMAR noise level of 81 dB(A).
- 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 organizer) 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 +1%.

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 affected.

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

All participants must strictly observe the instructions given by the Race Director, Jury and Referees. The bad sportsmanship and 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 RACE-OFFICIALS

REFEREES / RISC MANAGEMENT OFFICER / TIME-KEEPING SUPERVISOR / INTERNATIONAL JURY / RACE DIRECTOR / ASSISTANT RACE DIRECTOR / TEAM MANAGERS.

See IFMAR General Rules.

4.12 Radio Communication.

RADIO COMMUNICATION IS ALLOWED BETWEEN DRIVER AND ONE MECHANIC, see also rule 2.8.

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.

5. GENERAL TECHNICAL SPECIFICATIONS for Large scale

There will be two classes raced at the Ifmar World Championships, 1:5 Scale Touring Cars Sport and Open. The difference is in the motor specifications.

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

5.1 There is one series recognized in accordance to the 1:1 scale series namely the FIA World Touring Car Cup, following FIA. Touring cars raced in recognized mainstream national series in the past 10 years like Australian V8 Supercars, CTCC, German Pro-car, Italian Super Stars and GT bodies (e.g. Porsche, Aston Martin, Mercedes etc).

5.2 No refuelling allowed during all racing for 1:5 Touring Cars, (with the exception of the main final).

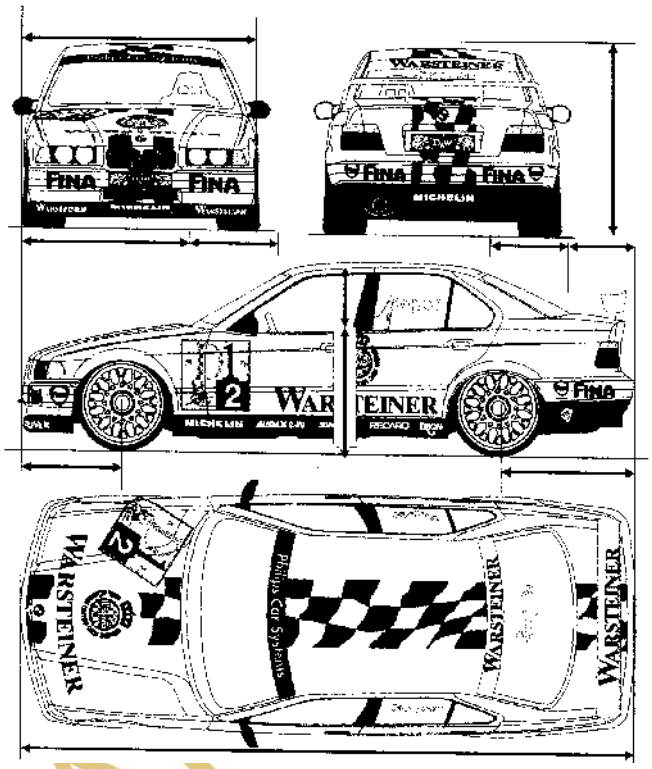
6 TECHNICAL SPECIFICATIONS

The car body has to comply with the calculated scale dimensions 1:5 with the allowance of using the following tolerances.

Length: within scale +/- 10%
Width: max. 395 mm measured at the widest point of the bodyshell
Height: within scale +/- 10%
Minimum wheel base: 500mm
Maximum wheel base: 535mm
Tank capacity: 700cc (including pipes to and from the carburettor and any fittings). If a ventilation chamber/catch tank is fitted, it must be fitted above the tank and be transparent.
Minimum weight, without fuel: 10.000 g
Maximum weight, without fuel: 12.000 g

All 1:5 cars have to be genuine scale in all details and proportions and be a fully detailed model of an existing 1:1 touring race car. If the allowed tolerances are used, then all parts of the model in that particular view have to be within the same sign (wheelbase-, length,- //wheelbase+, length+). Mixtures of car designs are not allowed. The minimum length of a Super Touring Car is 4.200 mm that gives a minimum length of 798 mm in scale including max.-tolerance. All recognized cars must have a minimum length of 4,200 mm/165.35 in. All bodies that are produced world-wide, descend from an original touring car racing and are commercially available, under consideration of Paragraph 5.3, will be allowed. Only

bodyshells that are approved by EFRA will be allowed to race in Ifmar sanctioned events. The Ifmar homologation number has to be permanently engraved or moulded in within the space normally used for car registration numbers at the rear end of the model. The minimum weight of the body is 550g ready to race including wing and wing support plate if used. The weight excludes any side guards/bracing or air ducts and if these are fitted, they must be either removed or identical items provided if requested by technical inspection to allow the body weight to be calculated. Weights are NOT allowed to be added to the body.



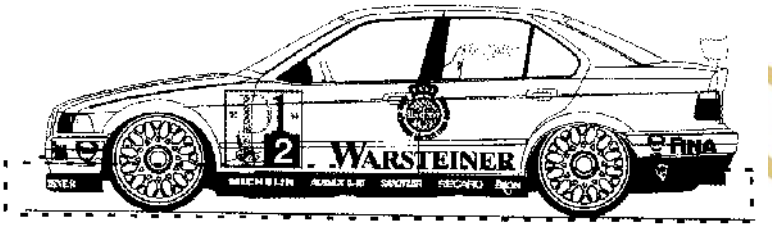
6.4 BODY

Bodies have to follow the description in point 6.3. They have to be properly fixed to the chassis and must cover the outer edge of the wheels at the centre of the axle when viewed from the top .

It is not permitted to cut the windscreen out. The side and rear windows may be cut out for cooling. It is not allowed to open them by cutting out only some holes. Also it is not allowed to mould air channels into the side windows to guide air into the interior.

The body shells have to be painted and all windows to remain clear. All parts of the car have to be covered by the body. Only the radio antenna is allowed to come outside. All openings in the body have also to be in the existing 1:1 race car. It is not allowed to modify the car-body by cutting it over the marked trim lines or to widen it by heating it or parts of it.

The start numbers must be placed according to the drawing (and the corresponding picture). The Car numbers design must have a minimum font size of 180 points (68 mm)
If the race-meeting has started, a competitor is only allowed to change the body shell in case of damage to a body shell of the same brand and car design.
Only allowed for manufactures: Aerodynamic modifications at the front, the sides and the rear below the wheel hub center are free subject to the requirements for ground clearance, overall length and overall width.
The modifications have to correspond to the original. The materials have to be the same as that of the bodyshell. The homologation number has to be engraved. A photo of the modification 1:1/1:5 have to be sent to the responsible Section/Homologation Officer.



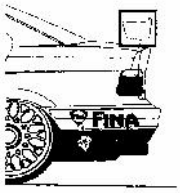
Aerodynamic modifications at the front, the sides and the rear below the wheel hub centre are free subject to the requirements for ground clearance, overall length and overall width. The modifications have to correspond to the original. The material has to be the same as that of the bodyshell. The homologation number has to be engraved. A photo of the modification 1:1/1:5 has to be sent to the responsible IFMAR Homologation officer.

6.4.1 GROUND CLEARANCE

The measurement of the bodyshell height will be made with 6 mm/ .236 in. ground clearance.

6.4.2 WING/SPOILER

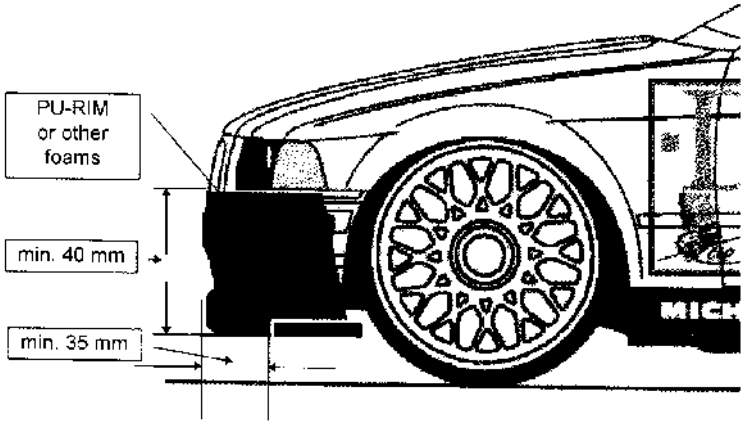
For all bodies a single rear wing is permitted as long as it does not overhang the length of the car and all parts remain under the roof line of the body. The wing dimensions are maximum 65 mm x 305 mm. Extension pieces extending past the main end plates are not allowed



6.5 BUMPER

A bumper has to be fitted to the chassis. Bumpers have to be designed in a way that they fill the front of a car body completely and be a minimum height of 40mm and extend a minimum of 35mm from any rigid part of the car. The material used has to be flexible like PU-RIM or other foams, that are used in 1:1 car construction to absorb impact energy.

At no point may any part of inflexible material for bodyshell mounting protrude from the body more than 10mm. If an opening is created through the foam bumper for cooling air, the combined thickness and depth of the foam (above and below the cooling hole/slot) must still be a minimum of 40mm x 35mm.



6.6 TYRES

Rim diameter max.:	107 mm/4.21 in.
Rim and fitted tyre diameter max.:	136 mm/5.35 in.
Rim and fitted tyre width – front max.:	75 mm/2.95 in.
Rim and fitted tyre width – rear max.:	80 mm/3.14 in.

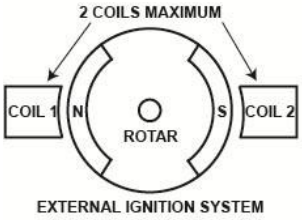
Tyres have to be black and only semi-pneumatic rubber. The design of the tyre profile is free. Foam tyres are not allowed.

The chemical treatment of tyres by adding any tyre traction moistures or other chemicals/additives is not allowed. Tyre cleaners are not allowed. This means it is clearly forbidden. But if someone use it at home, it is recommended that the chemical components of these products must be harmless for people and environment. Liability at the use of tyre additives lies at the user and manufacturer. Oil of wintergreen, paragon and other strong-smelling products are prohibited.

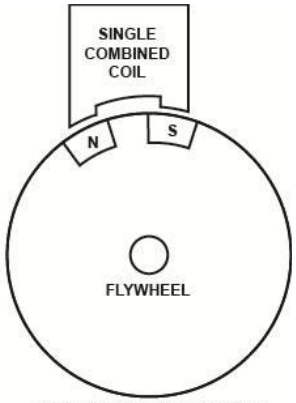
6.7 ENGINE AND FUEL

1. Only one marked engine allowed which will be marked with an official technical inspection numbered sticker provided by IFMAR or the organizer and enough bolts/nuts marked to monitor if an engine has been tampered with. In exceptional circumstances the race director may allow a second engine during the time of a wet track.
   Open Class- The marked engine maybe repaired/serviced in technical inspection and the piston ring, gaskets, crankshaft seals, engine covers and engine stop switches maybe replaced without penalty.
   Touring car Sport class- The engine must be a totally standard unmodified Zenoah as supplied by the manufacturer (including cylinder and crank case gaskets, bearings, seals etc) with the exception of these parts which may be changed/ upgraded- Carburettor Insulator block including supplied gaskets and/or a support bracket, exhaust gasket. Additional cylinder clamping bolts. Spark plug. The choke leaver in the carburettor may be removed. Electric starter conversion is allowed. Engine covers/cases maybe coloured.
   If any other parts are replaced or a second engine is used then the driver will receive an automatic stop and go penalty in their first final (during the first four laps). Each driver is only allowed to use a maximum of 2 engines per event. All engine parts must be commercially available
2. The engine to be a single cylinder, 2 or 4 stroke. Maximum of 23 cc for On Road touring cars. Electric starters can only be used in the pit lane and under no circumstances to be used on the race-track. There must be a secure protection on the flywheel cover to prevent people touching the flywheel or moving parts.
3. No Turbo charging, Fuel injection, Supercharging, Wankel or rotary valve/ distribution engines are allowed.
4. All ignition must be mechanically fixed, only manual static adjustment is allowed. The flywheel can only have 1 (one) pair of magnetic poles (i.e. one north and one south).

Touring cars and F1;- There can only be a maximum of 2 coils (either a single combined LT and HT coil with the standard type ignition or two LT coils with the external ignition systems) working with the flywheel/rotor.

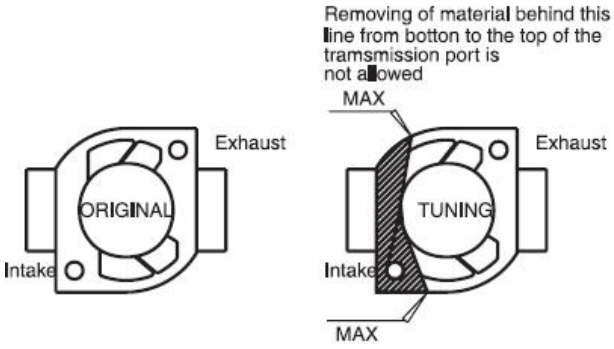


EXTERNAL IGNITION SYSTEM



STANDARD IGNITION SYSTEM

5. No Battery-operated ignition allowed. Only a passive ignition system using R.P.M. as the single input parameter is allowed.
6. Only open deck admission ports are allowed in engines up to 30cc, they maybe closed ports on engines over 30cc. The removal of material is free as long as the modified shape of the transfer/admission port walls are in the direction of the cylinder bore at all times.
7. The Cylinder block must be of a single casting. No independent liners or slipping liners are allowed.
8. The maximum numbers of admission ports is limited to 4.
9. Engine must be air cooled. The air being driven directly by the flywheel.
10. The crankshaft must be of split shaft configuration, with enclosed big end. No half crankshafts allowed.



11. An air filter must be fitted to the carburetor.
12. The maximum venturi diameter of the carburetor is limited to 13 mm for engines up to 30cc.
13. Only fuel admitted will be petrol normally available at street petrol stations.
The fuel must be bought at a fuel Station within the vicinity of the event. Details of the fuel station location and opening times should be provided by the race organizer prior to the event commencement, Fuel testing should begin prior to the start of qualification. Special fuel's like Avgas, race fuel etc. are strictly forbidden. The only exception to the above is alkylate type fuels (eg Aspen, Marline etc) are also allowed.
The only additive allowed is mass production two stroke oil.
Technical inspection may ask for a sealed bottle of that oil, to check it. If a fuel is found suspect, the driver will be asked to mix his fuel at technical inspection, so it can be verified. If an organizer is able to provide fuel at the track, all competitors have to use this fuel. The price of this fuel must not exceed the normal street price by more than 15%. Fuel tests may be made at random during the race. If a fuel is found illegal, the driver will be disqualified from the particular event and they will not be allowed to enter an IFMAR Large Scale event for the remainder of the current year and the full 12 months of the following year. The fuel tester must be available to the competitors during the event. If a driver wants to protest that decision, he has to make a written protest to IFMAR with a deposit of 500.- USD.

14. All drivers that qualify for the semifinals will have their fuel tank capacity tested prior to the semifinals. After testing the fuel tank will be emptied, the drivers fuel container will be marked and remain in technical inspection (facilities permitting) until the driver/car is preparing to go out on track for their semifinal and main final warm up. Only fuel from the drivers own marked fuel container is allowed to be used. Any engine additives or treatments applied directly into the engine anywhere at an event is strictly forbidden.

6.8 EXHAUST/NOISE REDUCTION SYSTEMS

Maximum noise level is 81dB (A) measured at 10 meters, 1 meter above the track. The race director has the authority to decide a different method of measuring (using an IFMAR approved noise trap/measurement) as long, as the result will be the same.
If a cars average over 10 or more laps exceeds the limit (with an additional +4db(A) for all classes) during the qualifying then the driver will loose their best qualifying result. If this level is exceeded during a final then the penalty is a 1 lap deduction at the end of that final. Under exceptional circumstances common sense will be used.
Both the Race Director and Referee's can decide if any car producing excessive noise is allowed to race.
Exhausts have to be of minimum three chamber type. No open exhausts or pipes are allowed. The total exhaust must be inside the body, with the exception of the tail end of the pipe, which may protrude the body by no more than 10 mm. No adjustable or moving parts are allowed in the manifold or muffler. The body may be cut out at that point max. 20 mm more than the tail end diameter.
Max. inside diameter tail end 13 mm.
All cars to be equipped with an air - box to reduce the intake noise of the carburetor. The air box must change the direction of air entering the carburetor by 90 degrees(or more) and be made of a rigid material. The exhaust must have a second muffler (if a two-chamber exhaust is used) or be a three-chamber type muffler. All three chambers must be designed so that the exhaust fumes will pass through and have to change direction twice to get the maximum possible noise reduction.
The design of that additional silencer is free, but with both systems together, the max. noise level must not be over 81 dB (A).
The Engines adjustments and warming are strictly forbidden in pits and working areas. They are allowed only on protected tables supplied by the Organizers, and in the proximity of pit lane, and of the Rostrum.

Car.

The car has to have a functioning brake, which has to be capable of keeping the car stationary whilst the engine is running.

A mechanical failsafe has to be fitted to the carburettor which returns the throttle to a closed position in case of breaking of the throttle linkage.

Variable ratio transmission is not allowed.

Only 2WD (rear-wheel drive) cars are allowed.

No other function than steering and throttle/brake are allowed to operate with radio control by the driver. Any other electronic or hydraulic systems are not allowed in the car, with the exception of electronic/hydraulic failsafe to stop the car in case of radio failure.

The Position of the ignition cut-out switch must be marked on the bodyshell with a white circular decal, 30 mm/1.18 in. in diameter, outlined in red with a red 'E' in the centre (see drawing below). The switch must be located in the original position on the engine.

6.9 Safety / Refuelling main final.

Drivers who are driving the main final have to prepare a bottle with 700cc of fuel in advance. That bottle will be sealed and stored by technical inspection.

After the start of the main final all bottles with fuel in the pitlane will be collected and go into Parc Ferme and each Mechanic will receive the designated sealed fuel bottle for his driver.

The refueling process has a minimum time of 90 seconds, to avoid fast and unsecure refueling and the risk of fire due to spilling fuel on the hot parts of the car.

About halfway through the final (no specific time, the driver's choice) when drivers come in for refueling the following procedure starts;

- You enter the pitlane and take the car out the pitlane (clock starts for your 90 seconds).
- You stop the engine
- Remove the body and switch off the radio receiver.
- Open the tank and refuel.
- Close the tank.
- Switch on your electronics again.
- Put on the body, start your engine and be ready to go if your minimum time of 90 second has expired.

BATTERY SAFETY:

All Lithium 'drive' batteries must always be contained in a 'CLOSED' lipo sack during charging or discharging procedures (other than during a race). Maximum charge voltage is 8,4v (for 2S battery). This procedure will be strictly enforced. There could be severe penalties if these procedures are not complied with.

FINISH

IFMAR ASSOCIATED MEMBERS.

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

Cayote / Hobbywing / JConcepts / Tonisport