



MEMBERS  
HANDBOOK  
**2022**

## APPENDIX 1

### 1/8th and 1/10th SCALE I.C. TRACK CARS Combined

#### 1. ALLOCATIONS FOR EUROPEAN CHAMPIONSHIPS.

- 1.1. The allocations for the EFRA European Championships 1/8th. and 1/10th. 200 mm scale will be established by the section meeting and published in the minutes.
- 1.2. For allocation and re-allocation procedures see Gen. 3.6. and 6.2.  
For BOTH CLASSES: Allocations will only be offered for EC and WC events to those member countries that have written to request places.
- 1.3. All countries receive re-allocated places in the order of the Allocation-list, unless stated otherwise in this list.
- 1.4. The number of entries for EFRA European Championships is 100 with a maximum of 120. Accommodations for at least 100 drivers must be available. If the number of entries exceed 100, the accommodation must be sufficient for all participants.
- 1.5. Applications for all EC's must be done in writing by using the applications forms to be presented at the annual AGM section meeting.

#### 2. RACING FORMAT EFRA EUROPEAN CHAMPIONSHIPS AND GRAND PRIX.

- 2.1. European Championships are held in following classes:
  - a) European Championship 1/8th IC PRO Class and European Championship 1/8th IC SPORT Class. European Championship 1/10th Touring Car Sedan bodies PRO Class and European Championship 1/10th Touring Car Sedan bodies SPORT Class. In the year there is an IFMAR World Championship outside the EFRA Bloc, dates between EC and WC must be separated with at least 4 free weekends between the finals. In the years there is an IFMAR WC in the EFRA Bloc, there will be no European Championship PRO Class (see schedule IFMAR, [www.ifmar.org](http://www.ifmar.org)).  
One special EFRA medal will be awarded to the fastest driver under 17 year in each class. So everybody of 16 years old at 1st of January, or younger can compete for this medal. One trophy must be awarded by the Organizer for each class.
  - b) The European Championship 1/8th SPORT class will be open to: All drivers who want to attend the race, except drivers who have ranked in the first twenty five (25) places of any of the preceding two (2) European Championship 1/8th IC PRO class (old EC-A) and to any driver who has ever taken part in an EFRA-IFMAR Championship (EC-WC) A main final in any class of racing in last 5 years.  
The European Championship 1/10th Touring Car Sedan Bodies SPORT Class will be open to: All drivers who want to attend race except drivers who have ranked in the first twenty five (25) places of any of the preceding two (2) European Championship 1/10th Touring Car Sedan Bodies IC PRO class (old EC-A) and to any driver who has taken part yet in an EFRA-IFMAR Championship (EC-WC) A main final in any class in last 5 years. For both classes:  
The winner of the European Championship SPORT class cannot participate in SPORT Class for next 5 years additionally with the other restrictions.
  - c) European Championship GT8 IC.
  - d) European Championship 1/8th Track 40+ and 1/10th 200 mm 40+. This will be one combined event. EC 40+: Open to all drivers of 40 years, including those who become 40 that year and older.

- e) EFRA GP series. EFRA GP Series will be held in the first part of the year (March-June). Minimum 2 and maximum 3 GP's. EFRA GP series (1/8th and 1/10th 200mm) are run in combined events. EFRA GP meetings will use the points system, with the drivers best 2 meetings out of the 3 to count. If EFRA GP series is held with only 2 meetings, all the races will count. EFRA GP series will follow GP3 point system (see 3.3.6). To solve Overall Result of the EFRA GP SERIES in case of tie, driver with single highest finishing position in either of the best Rounds that counted will be awarded the tie (1+3=4 beat 2+2=4). If tie continue then discarded round will solve the tie.
  - f) NATIONS CUP. At every European Championship A EFRA will hold a Nations Cup, with drivers competing as a team representing their countries. When race is over, the best two (2) drivers of each country will represent their country at this Nations Cup. Both results will be added together by points (according to the rule 3.3.6) and give the result of their National Team.
- 2.2. Free practice for an EC PRO Class is only allowed from the Wednesday preceding the Race. For EC SPORT Class, Free Practice is allowed from Monday preceding the race. For the rest of EC's (EC+40 and EC GT8) track will be open from Monday. It will not be allowed for all competitors in the event to practice for 10 days before this Monday (see also Gen. 8.1.) For 1/8th and 1/10th due to PRO Class & SPORT Class held at the same event: Pit lane refuelling may be forbidden during free practice at an EC if it is necessary to facilitate a quicker turn-around of drivers (every five minutes).
- 2.3. Free practice for Grand Prix events must be allowed at least from Friday preceding the event (see Gen. 8.2.).
- 2.4.1. General Qualifying format for EC's:  
5 Rounds of Qualifying will be run, irrespective of the number of drivers. Qualifying is 4 minutes + last lap for 1/8th and 1/10th. A point system will be used to establish the qualifying result. The number 1 ranked driver after completion of the qualifying heats will move up directly to the main final and take the pole position on the starting grid. The drivers ranked 2nd to 5th will compete in a 'super-pole' final after completing the last Round of Qualifying.  
**Super-pole:** Drivers ranked 2nd to 5th will drive the 'super-pole' individually on the track, for 6 consecutive laps including warm-up on controlled tyres. Drivers in Super Pole can use a new set of tires or used sets in their bag in the controlled area. Procedure for the Super Pole will be: 5 minutes warm up all participants together to clean the track. Then, one by one 3 minutes warm up for each driver in flying start system, and 6 consecutive laps. (Remark: when warm up time is over and driver cross the starting line, he cannot enter in the pits) The 'super-pole' running order will be 5, 4, 3, 2. The driver that scores the fastest lap will also move up straight to the 'Main' Final and take the second position on the starting grid.  
The other drivers from the 'super-pole' will start in the semi-finals as per qualifying ranking. Depending on time available all finals higher than 1/64th can be shorter than 20 minutes (for instance 10 minutes).  
See also 2.6 The number of Rounds to count is as follows:  
1 Qualifying Round completed                      1 by laps and total time.  
2 Qualifying Rounds completed                    1 best by laps and total time.  
3 Qualifying Rounds completed                    2 best point scores to count.  
4 Qualifying Rounds completed                    2 best point scores to count.  
5 Qualifying Rounds completed                    3 best point scores to count.  
Any Qualifying Round has to be completed for any Heats in that Round to be awarded points that count. Fastest competitor (based on laps & time) in each

Round will score zero (0) points, second place 2 points, third place 3 points, fourth place 4 points etc.

If two (or more) competitors achieve an equal time in any Round they will be awarded equal points. The next competitor not included in the tie will be awarded points corresponding to his position in the particular Round.

(NOTE: drivers not recording a time or having a time disqualified in any Round score points for last place in that Round)

Overall Qualifying positions are decided by each driver 'best' (lowest) points being added together, based on the number of Rounds to count as shown in above table. In the event of a tied position, the driver with the single highest finishing position in either of the best Rounds that counted will be awarded the tie (e.g. 1+3 = 4 beats 2+2 = 4). In the event of a continuing tie then the laps and times from the best points Round will be compared. The driver with the fastest laps and time will be awarded the tie. In the case of a continuing tie, then the times from the second best scores will be compared. Only counting Rounds will be used to decide Qualifying positions (or ties), all other Qualifying Round scores and times will be discarded.

If the intended maximum number of Rounds cannot be completed, due to weather or unforeseen circumstances, the number of Rounds to count will follow the same format as the table above.

**Rain procedure:** Only rounds ran under the same conditions will count. Same conditions means: no differences in average lap time by more than 20%. The Race director together with the referee will make the final decision.

#### 2.4.2. General Qualifying format for EFRA GP's.

For 1/8th and 1/10th : 3 groups of Qualification will be run irrespective of the number of drivers. After Control Timed practice groups of qualification will be divided as follow according to the ranking :

- Q3 : first 5 drivers in Control Timed Practice will be classified directly in the last round according to the ranking.
- Q2 : thirty percent of drivers (30%) after Control Timed practice minus drivers directly classified in Q3 (first 5) will be classified directly in Q2. In case of 30% of drivers result a non-integer number , the lowest integer number will be taken (i.e. 12.5 will result 12 drivers).
- Q1 : Seventy percent remaining (70%) of drivers after Control Time practice will race first round of qualification. In case of 70% of drivers result a non-integer number, the highest integer number will be taken (i.e. 50.5 will result 51 drivers).

Qualification procedure will start with procedure as follow:

- Q1 : 3 rounds of 10 minutes in flying start system (see 9.2.b General rules). The best 3 consecutive laps in the 3 rounds combined will be used to establish the qualifying result in Q1. The best 12 drivers in the ranking after 3 rounds will bump up to the Q2. Drivers directly classified for Q3 will have a 10 minutes free practice between Q1 and Q2.
- Q2 : Ranking list of Q2 will be based according to the best 3 consecutive laps for drivers who classified directly to the Q2 and drivers who bump up for Q1 (all together). For Q2 , 2 rounds of 10 minutes in flying start system (see 9.2.b General rules). The best 3 consecutive laps in the 2 rounds combined will be used to establish the qualifying result in Q2. The best 7 drivers in the ranking after 2 rounds will bump up to the Q3.
- Q3 : Ranking list of Q3 will be based according to the best 3 consecutive laps from positions 1 to 12. For Q3, only 1 round of 10 minutes in flying start system (see 9.2.b General Rules). The best 3 consecutive laps in the round combined

will be used to establish the qualifying result in Q3. The best 3 drivers will bump up directly to the Main Final.

The final ranking for subfinals will be based according to the results of Q3, Q2 and Q1. These results will not be combined which mean that results of different rounds of qualification will be used to arrange subfinals (i.e. position 4 in Q3 will be 1st in semi A, position 5 in Q3 will be 1st in Semi B and so on . . . ). Length and number of rounds can be adjusted according to the number of entries if needed in agreement with EFRA Official present at the event.

If two (or more) competitors achieve an equal time in best 3 consecutive laps, the driver with single best lap of the three laps counted will solve the tie. In the event of continuing tie, then the second-best lap will count to solve the tie and so on.

**Rain procedure:** Only rounds ran under same conditions will count. Same conditions means: no differences in average lap time by more than 20%. The Race Director together with the referees will make the final decision. For any other procedure under rain conditions will follow rule 4.5 appendix 1.

- 2.5. Time Schedule: The time schedule should not be rigid but adapted to the number of entrants. As a guideline at EC's with 100 or more entrants the schedule should be as follows:

**Monday & Tuesday:** Free or Controlled Practice for SPORT Class. For rest of EC's free or Controlled practice.

**Wednesday:** Free or Controlled Practice for SPORT Class and PRO Class

**Wednesday & Thursday:** Technical inspection. All cars must pass technical inspection before Controlled Timed Practice.

**Thursday:** Controlled Practice, Controlled Timed Practice and Qualifying 1 & 2 in the afternoon.

**Friday:** Qualifying Rounds 3 to 5, 'Super-pole' (for 2,3,4 and 5 Top Qualifiers), lower finals up to 1/64.

**Saturday:** 1/32 upwards, 1/16th, 1/8, 1/4 final; Practice 2 direct Qualifiers, 1/2 final, final.

For EFRA GP series as a guideline:

**Thursday & Friday:** Free or controlled practice.

**Saturday:** Controlled practice, Controlled time practice and Qualifying.

**Sunday:** Finals

The time schedule and the number of heats can be adjusted by the race director with agreement from the EFRA representative due to weather and unforeseen conditions and the number of total drivers at the event.

For EFRA European Championship, the race director should seed the Controlled Practice heats, Controlled Timed Practice heats based on the EC from last year.

For EFRA GP series, the race director should seed the Controlled Practice heats and Controlled Timed Practice heats according to last EFRA GP series meeting.

The heats shall contain a maximum of 12 drivers. These Controlled Practice heats will be of 10 minutes duration. The Controlled Timed Practice heat will be of 4 minutes duration. The ranking from controlled timed practice will be used to make the heats for the qualification heats. The schedule of all practice heats including each practice heat starting time will be carried out by the organisation of the event and it should be given to the Team Managers (only in EC) & published for general knowledge.

- 2.6.1. General format for sub-finals and main final at EC:

The lower finals are 20minutes up to 1/64 finals. Time for all finals higher than 1/64th to be set at team managers meeting. The duration of the main final is 45 minutes.

Sub-finals: The best 3 in each sub-final move up to the next final.

Semi-finals: The best 3 in each semi-final move up to the main final, plus the best 2 remaining drivers from the 2 semi-finals combined. When racing conditions are different in the two semi-finals, the best 4 of each semi-final move up to the main final.

Starting order for the drivers who moved up to the main final is based on number of laps and time for positions 3 to 10. In different circumstances it will be number 1 from the A semi-final who gets the number 3 and the number 1 from the B semi-final who gets the number 4 etc. Semi-final B is the first final to start on the Saturday afternoon.

After Practice direct Qualifiers cars (TQ and Super Pole winner), both cars must be kept in Parc Fermé. Additionally, after the first semi-final all cars will be put in Parc Fermé in technical inspection and they will be released after completion of the technical inspection of the 2nd semi-final. This will give all drivers that proceed to the final equal time for preparation.

#### 2.6.2 General format of sub-finals and main final at GP's

The lower finals are 20 minutes up to 1/64th. Time for finals higher than 1/64th to be set for Race director in agreement with EFRA official present.

Sub-finals: The best 3 in each sub-final move up to the next final.

Semi-finals: The best 3 in each semi-final move up to the final, plus the best remaining 2 drivers from the 2 semi-finals combined. When racing conditions are different in the two semi-finals, the best 4 of each semi-final move up to the main final.

Last chance final: A special final to all drivers of semi-finals who not bump up into the final (12 drivers in total). Duration will be 15 minutes and winner of the final will bump up into the final with number 12. The order of starting grid in the Last chance final will be according to the results in laps and time on both semi-finals combined.

Main finals: Main final will be run with 12 drivers in 2 legs of 25 minutes. Both legs will count for the final result. If only one leg will be run for any condition, only one leg will count for the final result. The winner determined from the combined main finals will be the champion. The winner of the main finals will be the driver with best laps and times combined. Starting order for the drivers who moved up to the main final is based on number of laps and time from position number 4 to 11. Starting order in both Finals will be the same, according to driver number. In different circumstances it will be number 1 from semi-final A who gets 4 and the number 1 from semi-final B who gets number 5 etc.

After Practice, direct Qualifiers cars (TQ, 2nd and 3rd of Q3) must be kept in Parc Fermé. Additionally, after first semi-final all cars will be put in Parc Fermé in technical inspection and they will be released after completion of the technical inspection of the 2nd semi-final. This will give all drivers that proceed to the final equal time for preparation.

#### 2.7 During the race 2 (two) mechanics are allowed in the pit lane.

#### 2.8 When the Qualification has been completed, the TQ, winner of super-pole and the drivers of car number 1 of Semi A, and car number 1 of Semi B must do a press interview with the cars (not only with the body) in a place that the organiser must prepare on the track. This place must be equipped with a table with an EFRA MEMBERS banner and chairs for the drivers. The EFRA official media partner will have preference for the first 5 questions. When the main final has been finished, we will have the same procedure for the 3 first drivers in the final, when the result has been declared official for the race director.



### **3. TRACK SPECIFICATIONS**

- 3.1. Track surface should be unsealed asphalt or coarse finish with any joints smoothed.
- 3.2. Minimum length must be 200 metres (advised 240-300 m. ).
- 3.3. Minimum width of the track will be 4 m. between marking lines. (advised for new tracks 4 m between the marking lines). The maximum width is 6.50 m. The marking lines must be 8-10 cm wide and either white or yellow. They must be approximately 20 cm away from the edge of the racing surface.
- 3.4. Maximum distance from the middle of the drivers rostrum to the furthestmost point of the track must be 60 metres.
- 3.5. Vision: no obstacles may interrupt the vision from the driver's rostrum to any part of the track.
- 3.6. A broken line may be drawn in the middle of the straight to aid vision. No lines may be drawn in corners other than the outer marking lines.
- 3.7. The refuelling and pit area should be clearly distinguishable from the main track and as close as possible to the drivers' rostrum. Exit from and entrance to the main track is advised to be on a slow part of the track.
- 3.8. Track design must include both right and left hand turns and must have a straight of minimum length 45 metres.
- 3.9. Outside barriers must provide a positive means of stopping a car which misses a corner or runs out of control. The primary consideration for selection of the outside barriers shall be the protection of the spectators and not the cars.
- 3.10. Inside barriers must deter corner-cutting and prevent cars reaching other parts of the track. Inside barriers must be positioned and dimensioned to prevent cars from flying over the outside barrier into the public enclosures. The barriers must be smooth. When cones or dots are used, they should not be higher than 5 cm.
- 3.11. Barriers must be a minimum of 20 cm away from the marking lines on the track.
- 3.12. The inner and outer surrounds to the track must be of grass or other suitable materials such as concrete. The object of these surrounds is to slow down any car that leaves the racing surface. The car must be able to leave the infield or outfield unassisted to minimise the need for Marshall's assistance. Marshal posts must be positioned at 30 m intervals around the track. They may not obstruct vision of the drivers. The post must be numbered. When a post is located at a dangerous part of the track (i.e. the straight or a fast corner) this post must have protection for the marshal (a wall, tyres, a gate, etc.).
- 3.13. A start/finish line must be painted across the track, preferably in front of the time keeping position. The first start line box must be located more than 10 m. away from the following corner.
- 3.14. Only a Le Mans type of start will be used. For Le Mans type of starts, 12 numbered boxes will be located on the edge of the track, at an angle of 20-45 degrees to the track, min. 4m apart. Starting position can be approved by highest EFRA official at race in discussion with Race director and Organiser. The boxes must be 70-100 cm long and 30-40 cm wide.

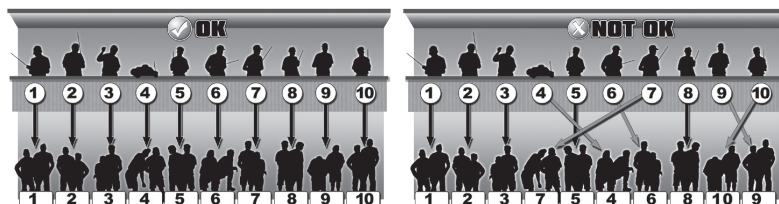
### **4. RACE PROCEDURES 1/8 & 1/10:**

- 4.1: CONTROLLED PRACTICE AND CONTROLLED TIMED PRACTICE PROCEDURES for all EFRA races:  
All practice in EFRA races will be defined with the best result of 3 consecutive laps of the driver. The result will be used in the following procedure:  
**For EFRA GP series:** The race director should seed Controlled Practice and Controlled Timed Practice according to the last meeting of the EFRA GP series. Controlled Practice shall contain a maximum of 12 drivers. These Controlled

Practice heats will be of 10 minutes duration. The Controlled Timed Practice will be of 4 minutes duration. The arrangements of the Qualifying heats and the numbering will be defined with the best result of 3 consecutive laps of the Driver, made during 2 controlled timed practice runs.

**For EC's:** The race director should seed Controlled Practice and Controlled timed Practice according to the EC from last year. Controlled Practice shall contain a maximum of 12 drivers. These Controlled Practice heats will be of 10 minutes duration. The Controlled Timed Practice will be of 4 minutes duration. The results of the Controlled Timed Practiced will determinate allocations to participate in the EC A. This ranking list will not consider drivers who are classified directly in the EC A (25 first drivers for EFRA GP series, current WC 1/8th if European, current WC 1/10th if European, current EC 1/8th and current EC 1/10th). The total amount of drivers for EC A will be 64. Rest of the drivers will race in EC B. EFRA Section Chairman together with Race Director and Referees have the right to switch drivers from Euro B to Euro A under justified situations (deliberate slow down, weather conditions, etc.).

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 or in the same order.



#### 4.2. STARTING PROCEDURE OF HEATS FOR EC's

Starting for qualifying heats will be from the start line or pit lane, using the staggered start system (one by one). In each Round, the order of starting Heats will be as follows:

Round 1-- 1,2,3,4,5,6,7,8,9,10

Round 2-- 4,5,6,7,8,9,10,1,2,3

Round 3-- 7,8,9,10,1,2,3,4,5,6

Round 4-- 10,9,8,7,6,5,4,3,2,1

Round 5-- 6,5,4,3,2,1,10,9,8,7

#### 4.3. Qualifying for EC's.

All Qualifying runs and Finals are run by "time plus completion of lap" system. Qualifying heats are 4 minutes duration. For duration Lower Finals and Main Final see 2.6. The use of a personal transponder is mandatory.

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 if needed.



- 4.4 Qualifying, Staggered start system for EC's:
1. There must be a minimum 3 min. gap between the end of one heat and the start of the next heat. Also, a minimum of 2 minutes must be allowed between the issuing of the transmitters and the start of the heat.
  2. 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.
  3. From 30 seconds until 3 seconds the cars must be held at the starting boxes (this could also be the pit lane). If a car is not at the starting box at 3 seconds (due to unforeseen problems) the car may start from the pit lane after other cars have officially started. The race director and referees will monitor for the abuse of this procedure.
  4. Cars are released in the right order for the Round by the starter.
- 4.5. 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 (20% differences in lap times). On the corresponding record sheets, this must also be marked. The Race Director together with the Referees will decide in case of any doubt. Heats are generally considered to be 'WET' when there is any rain or moisture on the track and it is obvious to the Race Director that the cars cannot perform to their maximum capability. The Race Director may decide to postpone qualifying if it is likely that qualifying can be resumed within reasonable time.
  3. Due to the points system and when weather and time permits, the Race Director must try to complete as many Rounds as possible under equal circumstances.
  4. 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. (4.8.1.).
  5. When 1 Round is finished under dry conditions, the Race Director can postpone the qualifying until the track is declared fully dry again. If it is likely that this will interrupt the qualifying for more than 1 hour, the Race Director may decide to open the track for controlled practice.
  6. In case of interruption due rain situation when a round of qualification is running, all this ROUND of qualification will be discarded.
  7. When race director declares the race to be wet, a second car can be used as a rain car in same conditions like in sub-finals and final (see 4.8).
- 4.6. Qualification Order and Finals.
1. After all Qualifying Rounds have been completed the Qualification order is established, by taking the total counted points result of each driver.
  2. In case of more than one driver recording identical best results of qualifications the next best result is taken.
  3. In the case of more than one driver recording identical results in a Final, the driver starting with the higher start number is classified as the faster, e.g. if number 5 and 2 have equal times, 5 is deemed to have the higher final placing.
  4. The Sub-Finals and Main Final are run according to the schedule printed in the official race program, which may only be changed by a team managers majority vote.

5. After all Sub-Finals and Main Final are completed, a final result list is prepared based on laps and time, bearing in mind the Sub-Final order. In case of rain see 4.8.

#### 4.7. STARTING FOR SUB-FINALS AND FINAL

Starting for sub-finals and final will be on a 'Le Mans' type grid, with the faster Qualifier starting in front of the slower. Finals, Le Mans start grid:

1. There must be a minimum 3 min. gap between the end of one final and the start of the next final. Also, a minimum of 2 minutes must be allowed between the issuing of the transmitters and the start of the final. For the main final the warm up time will be 5 minutes in any case.
2. 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.
3. From 30 seconds until 10 seconds countdown the cars must be held at the starting boxes. If a car is not at the starting box at 10 seconds countdown (due to unforeseen problems) the car may start from the pit lane after other cars have officially started. The race director and referees will monitor for the abuse of this procedure.
4. For all finals, from 10 seconds until 3 seconds prior to the start, a second by second countdown will be made in English.
5. For Le Mans Grid Starts: at 5 seconds prior to the start, the Starter will lower the starting flag and at 3 seconds the flag will be fully down. At this point, all cars must be released by the mechanics, who will all step back 1 meter. The cars must remain in the boxes, no part of the car touching the starting line.
6. 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 restart, re-commencing with the count-down from 30 seconds.
7. The official start signal will be audible by means of a 'hooter' (computer operated signal), operated by the Starter/Timekeeping supervisor. This signal will also start the Timing Systems.
8. Jump-starts, (i.e. any part of the car touching the starting line) will be penalised with a 'STOP and GO' penalty. The time for this 'STOP and GO' has to be set at the team managers meeting before the actual race starts and will have a maximum of 10 seconds. This penalty is issued by the Starting Official, Race Director or the Referee and must be announced immediately after the start. The penalty will be marked on the result-sheet.
9. Under no circumstances will the race be stopped due to a jump-start.
10. The Starter may only interrupt the race and make a restart in the event that he considers the starting procedure, or the start was not carried out correctly.
11. Delayed start: Providing the starter has not called 30 seconds (the trial lap, see 4.3 is part of the procedure after 30 seconds) for the cars to the start line, any participant of the semi-final 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 semi-final and the final. The track must be open. When 10 minutes timeout are finish, time keeping will call for 2 minutes to start. Any driver asking for a delay will start from the end of the grid (11th position to be painted on the track) or from the pit lane in case he is not within time at the grid.

4.8. RAIN PROCEDURE Sub-Finals:

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...

**WET CAR:** When a race director declares the race to be wet, a second car can be used as a rain car. This car cannot be used (shared) by another driver/s in the same event. The rain car has to be scrutinised and be visibly marked as a rain car (different colour or different sticker/marks) in due time before it is used. One rain car cannot be marked for several drivers. Multiple marking of the chassis is not allowed. Removing of existing marks to mark the chassis for another driver is not allowed and will be seen as violation of existing regulations. This rain car can only be used in wet conditions and not in dry conditions. This car cannot be used when the heat or final has already started. Once you start (in time) with a rain car you must finish with this rain car.

4.9. RACE INTERRUPTIONS:

1. In the case of a race which is interrupted for more than 60 minutes for reasons beyond the control of the organisers (bad weather conditions with safety risks for all persons at the meeting), the referees together with the Race-director 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 a sub-final or main 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. Vehicles may not be repaired before the new start. 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.

5. **GENERAL TECHNICAL SPECIFICATIONS**

All measurements referred in this appendix are minimum or maximum values. All measurements for the motor dimensions to be considered with 2 digits behind the comma, all other measurements to be considered 1 digit behind the comma. Measurements must be within their maximum or minimum values under all Circumstances.

5.1. TYRES/Rims:

Tyres must be black, except for writing on the side wall (exceptions only after EFRA agreement). Foam and/or rubber tyres can be used. Treatment of tyres

with any type of additive is strictly not allowed.

TYRE DIMENSIONS FOR 1/8th: Maximum width of rear tyre: 64.0 mm.

TYRE DIMENSIONS FOR 1/10th: Maximum width of front & rear tyre (across side-walls): 31.0 mm.

#### 5.1.1 SPECIFICATIONS FOR CONTROL TYRE

Definition of Control Tyre: 1 set (front and rear), 1 brand, 1 diameter front, 1 diameter rear, 1 shore for front and 1 shore for rear.

A Control tyre is mandatory for: Controlled time practice (which are used for seeding), Qualifying, Sub-finals and final. Price will be fixed for all EFRA season and will be revised in each AGM:

Price for 2021 1/8th: **23€** per set

Price for 2021 1/10th 200mm: **13€** per set

Diameters for 1/8th: 69.0mm front and 76.0mm rear

Diameters for 1/8th electric stock: 64mm front and 70mm rear - tire trueing in the pit shall be allowed as there exist many different split options between the brands.

Shore hardness for 1/8th: 32 front and 35 rear (final number of shore after consultation with the organiser).

The mandatory quantity of tires shall be fixed by considering different tire wear of the different classes. 1/8th electric stock class needs less tires.

PROCEDURE FOR CONTROL TYRE (specific rules for drivers): -

- Only EFRA chosen supplier controlled tyres can be used (Hand-outs).
- Reused tyres will be allowed.
- Mandatory sets for official race: 8 (eight) sets. With registration drivers must order the number of tyres for free practice they want to get, so the Official Tyre Supplier can provide enough tyres for whole event.
- When drivers arrive at the track, they will have their sets ordered for free practice ready to collect in the Official Tyre Supplier area. For Official sets of tyres (8 sets) drivers will get tickets to be exchanged in Controlled Area.
- Drivers have to pay for sets that they ordered (free practice and official sets) directly at the track to the Official Tyre Supplier.
- If the hand out tyres have any visible defects (bad gluing, visible damage to tyre or rim) the effected tyre(s) can be exchanged before the race start by race control. Production tolerance (including shore hardness) will not be considered as a defect. Tyres must be used as they are supplied and will be given out and fitted in the controlled area. (No modifications to the rims, except the hole for the axle, no shore meters can be used to select tyres)
- During their race time, drivers can use tyres from their box in the controlled area. After finishing their race time, drivers must leave their tyres in their box and leave the pit area without tyres. If any tyre leaves the pit, it cannot be used in the Official race anymore.
- When drivers finish their participation in the event, they can collect their used or unused tyres from the controlled area and keep them.-For free practice, drivers have free choice of tyres used, but no treatment is allowed. From the start of the controlled timed practice, drivers have to use the Hand-out tyres.
- In case of rain (decided by the Race director after consultation with the Section Chairman), any alternative tyre can be used which has not been treated in any way, with the aim to get more or less traction.

PROCEDURE FOR CONTROL TYRE (specific for manufactures/brands)

- Only EFRA registered manufacturers/brands allowed to be Official Tyre Supplier. They must be registered at the Official Tyre Supplier list before 31st of January.
  - Requirements to be Official Tyre Supplier for EFRA events:
    1. All manufactures/brands must be Associated Member in EFRA.
    2. They must have enough capacity to provide necessary amount of tyres for EFRA events. The Official tyre suppliers have to provide a minimum sets as follow: Mandatory tyres for Official race + Tyres booked for drivers for free practice + Tyres needed for finals + Margin to cover additional demands no less than 30%
    3. Official Tyre Supplier has to be completely in charge of tyre distribution of tyres. This means: provide tyres directly at the track, take care of all regarding payments (they will accept cash and recommended credit card payments), handling Official tyres together with organiser (except controlled area), prepare ticket system and, in general, all minor things needed for the Control Tyre System.
    4. Manufactures must assure a good quality of tyres, which means right hardness (with minimum tolerance), balanced tyres, good quality of gluing and right hole for the axle.
    5. EFRA will carry out control of TYRES during the event at discretion to assure these requirements. EFRA reserves the right to refuse selected manufacturers before the event if they cannot assure quality needed and/or EFRA has the right to ban Manufacturers as Official Tyre Supplier for a period between 1 to 5 years if they don't provided handout tyres according to the EFRA requirements. Decision from EFRA in this point is final.
  - Manufacturers/Brands as Official Tyre Supplier have the right to:
    1. To make any promotion by themselves as EFRA Official Tyre Supplier.
    2. To get enough space on the track during EFRA EVENTS to handle all necessary regarding Control Tyre System.
    3. To put banners on the track as EFRA Official Tyre Supplier with a maximum of 5 banners. If more banners on the track or another kind of advertisement, that will be in agreement with the organiser.
    4. To get all benefits for EFRA Associated Members.
  - After 31st of January a final list with the Official Tyre Suppliers will be published on the EFRA webpage. In that list, Official Tyre Suppliers will get races according to a rotation list. Rotation list means: First company in the list get first EFRA event. Then, this company goes back to the list, the next one will get the next EFRA event, and then go back to the list, and so on. Agreement between EFRA and Official Tyre Supplier is allowed.
  - In the years when there is an IFMAR WC in the EFRA Bloc, all EFRA races at the WC track (Warm up, EFRA GP series...) must be done with the same tyres selected for the IFMAR World Championship. Additionally, if any GP or Warm up must be done on the track at same year where EC will be held, such races will be raced with same tyres.
- 5.2. Fuel may only contain methanol (methyl alcohol, CAS number 67-56-1), lubricating oil, a small content of anti-corrosion chemicals and maximum 16% for 1/8 and 16% for 1/10 of methane (Cas number 75-52-5) IN WEIGHT(not in volume). The specific gravity of the mixture may not be heavier than 0.859 grams/cc at 20°C and standard atmospheric pressure. For quick testing a Nitromax 16E can be

used, but in case of failure with the Nitromax an official density meter must be used to control the specific gravity of the fuel including the temperature recorded during the test. A specific table will be produced to report the density (grm/cc) based on the temperature (from 0 to 50°C). The tolerance on the measurement will be +/- 0.5% based on the data reported in density table. Any violation with fuel which means any proof of the use of other additives as mentioned will mean 5 years of disqualification from any EFRA and IFMAR event.

If an EFRA World Championship Event is to be run at a Country which permits the use of a heavier content of nitro methane (up to 25% in volume) and the Organizer can ensure EFRA and the participants its supply track side, then the limits will be according to the IFMAR with a maximum 25% of nitro methane (Cas number 75-52-5) in volume, using for quick testing the corresponding Nitromax tool.

- 5.3. All vehicles must be equipped with brakes and a clutch in such a manner, that the vehicle may be held stationary with the engine running.
- 5.4. Each motor must be equipped with an exhaust system and inlet silencer (INS-box) to reduce the amount of noise. A Registered muffler and Homologated INS-BOX is mandatory. In case of rain and on instruction of the Race Director, drivers can use something else as an INS box (In this case the INS box is not mandatory). EFRA's definition of a noise level is always final. Any modification to the muffler or INS Box is forbidden.
- 5.5. Only EFRA registered mufflers are allowed at EFRA sanctioned events. The EFRA registered number must be engraved on the sidewall of the muffler. The tail pipe must be oriented on or below the horizontal Race directors have the right to measure at track side and take out cars that make too much noise. EFRA's definition of a noise level is always final. For 1/8th, a 3-chamber muffler is mandatory. For 1/10th a double chamber design, including silencer chamber, must be fitted.
- 5.6. The aerial must be flexible. Carbon, metal, etc. is not allowed.
- 5.7. The body and spoiler must be made of a flexible material and be painted properly. All windows must remain clear or be semi-transparent. When initially entered in a meeting the body must be neatly finished.
- 5.8. The minimum weight limit of the cars:  
 1/8th Class: 2350 grams for 4WD cars.  
 1/10th Class: 1650 grams.  
 For both Classes: The weight limit will be checked with the cars ready to race but with empty fuel tanks and with transponder (personal or with battery). The weight will be checked on a digital scale balance and can be done before the start of the heat, sub-final, final or after the end of either. If the weight is found to be under the minimum weight the driver will be disqualified from the heat, sub-final or final.
- 5.9. Baseboard for checking the width of the car.  
 1/8th Class: The car shall be measured for width by placing it on a baseboard equipped with two side rails of minimum 40.0 mm height spaced 267.0 mm apart and a length of 637.0 mm for Formula and Sports cars and 610.0 mm for GT cars which includes provision for checking the maximum height.  
 1/10th Class: The cars shall be measured for width by placing it on a baseboard equipped with two side rails of minimum 40.0 mm height spaced 200.0 mm apart and a length of 460.0 mm x 175.0 height (incl. 10 mm spacer).  
 For both Classes: Base-board and rails must be constructed of high quality board suitably stiffened to prevent distortion. The car must roll freely between



the side rails with any steerable wheel set in the straight ahead position without any part of the wheels, bumpers, body shell or any other part of the car touching the side rails irrespective of the compression or extension of the suspension. Measurement of the wheel base may be made by simple measurement of axle centre distance, but Race Directors should be prepared to make more exact checks in case of doubt or protests.

It is suggested that the wheels are removed and the wheel spindles firmly placed on V-blocks whilst accurate measurements are made. It is the responsibility of the driver to ensure that his car complies with the regulation at all times when it is on the track and the organiser may check any car for compliance with the regulations at any time during the race meeting. If a car is found to exceed the limits of dimensions on checking immediately after a race, positive proof of race damage may prevent disqualification.

5.10. Checks at the technical inspection:

- a) Before the race all cars will be checked and during the heats the following random checks will be made:
- Weight limit.
  - Muffler & motor.
  - Body and wing/spoiler.
  - Overall dimensions.

The chassis is to be indelibly marked before the race and if a driver wants to change it, he must present the new and the old to the inspection officer.

During sub-finals, all cars moving up to the next final plus the next one are to be checked. In addition to the above mentioned checks the following are to be done during sub-finals:

- Weight limit.
- Muffler.
- Body and wing/spoiler.
- Overall dimensions.
- Marking of the chassis.
- Fuel tank capacity.
- The same checks must be made after the Main Final for the top 4 places

5.11 Only two (2) servos are allowed.

5.12 It is not allowed to use any electronic parts for "Traction Control and/or braking control (ABS)" which can control the power of the transmission by means of a feedback system. It is not allowed to use any form of telemetry with active transmission.

5.13. List of approved equipment: All lists of approved equipment (i.e. bodies, mufflers and batteries) must be available on EFRA's webpage from the 1st of March every year. This is the final list for that year and no changes will be made before the next year. Equipment registered and homologated during the year will not be put on the list until the 1st of March next year.

**6 1/8th CLASS TECHNICAL SPECIFICATIONS.**

6.1. The engine may have a total capacity of not more than 3.50 cc. A maximum carburettor diameter of 9.00 mm.

6.2. The fuel tank including filter and fuel pipes up to the carburettor may hold a maximum of 125.00 ml. No loose inserts allowed. Any tank found illegal (>125 ml) after a heat or final shall be removed from the car and inspected for a second time after an initial "cool down period" of approx. 15 minutes. This period of 15 minutes is only necessary if ambient temperatures are above 20° C.

- 6.3. Overall dimensions of the car:
- Wheel base: 270.0 - 330.0 mm, overall width max. 267.0 mm
  - Overall width of the body max.: 267.0 mm, measured on all points on the body.

The lower sides between the two front and rear wheel arches will not be taken into account for technical inspection as long as they are not wider than 277 mm. If the body is wider than 277 mm on the lower sides the technical inspection has the right to take action with a warning for the first occurrence but disqualification from the race result for any further occurrences. For all finals: bodies must first pass technical inspection for verification and a first warning is not applicable.

- 6.4. Rims: The rim must not exceed 54.0mm. An edge to reinforce the rim on the inside (car-side) of 2.0 mm thickness and 3.0 mm height is allowed, flange diameter max. 60.0 mm. Any fixing bolts or other equipment installed in the wheel rims may not extend beyond the exterior of the wheel rim.
- 6.5. The front of the vehicle must be equipped with a bumper in such a manner, that it will minimise an injury if it makes contact with other participants or members of the public. The bumper must be made from a flexible material with all corners and sharp edges radiused. The contour of the bumper will follow the contour of the body with which it is being used. At no point may the bumper protrude more than 5.0 mm in front and 13.0 mm on the sides of the body.
- 6.6. If a rear bumper is fitted it must finish not more than 50.0 mm behind the rear axle. Rear diffuser is allowed as long as they don't finish more than 50.0 mm behind the rear axle.
- 6.7. All EFRA sanctioned events will be raced with open/closed cockpit prototypes/ sportscars/ can-am type/GT-P's/Group-C or similar cars. All lists of approved equipment, (i.e. Bodies, mufflers and batteries) must be available on EFRA's website from the 1st of March every year. These are the final lists for the year and no changes will be made before the next year. Equipment homologated/ registered during the year will not be put on the list until 1st of March next year.
- 6.8. A realistic driver figure (minimum 3 colours) made to 1/8 scale must be fixed in the correct position in open cock-pit cars. The windscreen and windows must be translucent (i.e. Not completely painted-in).
- 6.9. All bodies must have the front and rear wheel arches cut out if the original was so designed.

6.10. CUT OUTS

The windscreen must not be cut out. One hole of max. 6.0 sq. cm for cooling is permitted-side windows and rear windscreen may be removed..It is not allowed to bend windows to the outside - all parts of the vehicle must be covered, except:

- a) Cooling head of engine.
- b) Air filter.
- c) Aerial (max. 10.0 mm).
- d) Outlet pipe of muffler.
- e) Fuel filler cap.
- f) Roll-over bar.

Only if these parts are extending the body. Cut-outs for above mentioned parts are to have no more than 10.0 mm clearance. In addition to this, the following holes are allowed:

- g) For muffler outlet.
- h) For fuel filler cap (50.0 mm maximum, round, viewed from above, or oval 40 mm x 60mm maximum). Note: Hole for roll-over bar and fuel filler cap

can be combined. It's not allowed to combine fuel filler cap with Air filter hole and/or cooling head engine hole.

The following rules refer to the GT-P/Group-C body: In case of the Proto types or open cockpit cars, a clearance of 10 mm around the fuel filler cap is allowed.

- i) For radio switch (max. 10.0 mm)
- j) For glow plug (max. 20.0 mm).
- k) Fuel mixture valve (max 15.0 mm).

6.11. Specific body attributes:

- a) Group C: Cars eligible for this class are those that have been used under "Group C" rules in the FISA Sportscar World Championship.
- b) GT1/GT2-Cars: Cars eligible for this class are those that are or have been racing in FIA GT Class. This can be either GT1 or GT2 cars like McLaren F1, Porsche 968 GT1, Ferrari F40, Marcos etc. The cut-out of the body at the rear is free after the rear axle, but rear lights must be fitted if the original is equipped with these.
- c) GT-P cars, eligible for this class are those that are or have been racing in the FIA "GT-P" class (see Le Mans 1999), or the Petit Le Mans Series in America.
- d) Proto type CAN-AM cars: eligible for this class are those that are of have been racing in any official championship.

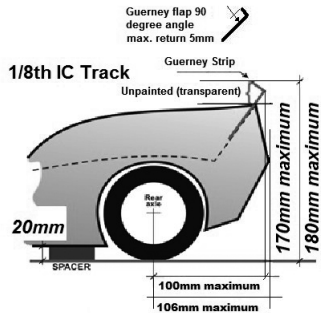
Homologation procedure: For all types of cars, the body shape behind the rear axle is not subject to control. The outer edge of the wheels must be covered at the centre of the axles viewed from the top. All bodies must be homologated by EFRA. The homologation number of the body must be visible, during the painting it will be possible to maintain transparent or semi-transparent the EFRA number.

6.12. Wings and Spoilers:

Separate wings and spoilers are not allowed. Only a Gurney strip mounted on the rear of the body is allowed. The "Gurney" should not be higher than 5mm with a 90 degrees angle (see drawing). Maximum height for the body, side and rear wing is 170mm with the chassis raised on 20 mm blocs. This maximum height with the Gurney Strip is 180 mm on a 20 mm spacer.

The maximum overhang is 100 mm measured from the rear axle centre point. See drawing.

Maximum dimensions: Group "C", GT-P, Can-Am, GT1 and GT2 cars max. width: 267 mm, max. height: 170 mm (180mm for flat chassis pancars) (on 20 mm blocs). Overall, maximum height including a Gurney strip 180 mm (190mm for flat chassis pancars) (on 20 mm blocs). Max distance behind rear axle: 100 mm (110 mm for 2wd & flat chassis cars).



6.13. 4WD cars can be used without any technical restrictions except those listed in Section 5. The use of separate front wheel brakes, except through transmission is also not allowed (locking of a one-way bearing is allowed).

6.14. A roll bar may be fitted which must not project more than 30 mm above the cooling fins or roof, in case of, for instance a saloon car.

**7 1/10th CLASS TECHNICAL SPECIFICATIONS:**

7.1. The engine may have a total capacity of not more than 2.11 cc. Engines will be air-cooled, with front rotary valve, two-stroke induction. The engines may have

a maximum of four (4) ports in the liner, including the exhaust port, seen with the piston at lowest position. No form of forced induction is allowed. No form of variable port timing.

Only glow plug ignition is allowed. One additional gap in the bottom (skirt) of the piston is allowed. No additional holes in the piston are allowed. Additional slits or holes in the liner for cooling purposes are allowed as long as they do not reach the top of the piston at lowest position. Standard and conical glow plugs are allowed. Reference to 'hole' in this rule means any hole that is surrounded completely by material.

- 7.2. Engine internal modifications are allowed as long as they are within parameters of rule 7.1.
- 7.3. A maximum carburettor diameter of 5,50 mm.
- 7.4. The fuel tank including filter and fuel pipes up to the carburettor, may hold a maximum of 75.00 ml. No loose inserts allowed. Any tank found illegal (>75.00 ml) after a heat or final will be removed from the car and inspected for a second time after an initial "cool down period" of 15 minutes. This period of 15 minutes is only necessary in case the ambient temperatures are above 20°C.
- 7.5. Overall dimensions:

	Min. (mm)	Max. (mm)
Wheelbase:	230.0	270.0
Width without body:	170.0	200.0
Width with body:	175.0	205.0
Length incl. body & wing:	360.0	460.0
Height of the top of the roof (measured with a 10 mm spacer under the chassis plate level):	120.0	175.0
Wing width incl. side dams:	125.0	200.0
Wing:		55.0
Side dams:		35.0 x 50.0
Wing overhang (at rear):		10.0
Wheel dia. ( measured at tyre bead location):	46.0	50.0
Wheel width (incl. tyre bead) and tyre width (across side walls):		
Front:		31.0
Rear:		31.0

Although the wheel diameter at tyre bead mounting location must not exceed 50.0 mm diameter, an edge to reinforce the rim of 2.0 mm thickness and 3.0 mm height is allowed, giving an overall wheel diameter max. 56.0 mm

- 7.6. Wheels must be fixed by a screw or nut. The screw or nut installed in the wheel rims may not extend beyond the exterior of the wheel rim. Quick change wheel systems are not allowed. No automatic / spring charged or electric system to change the wheels is allowed (only manpower).
- 7.7. The front bumper must follow the body contour and must be constructed so as to minimise injury that may result from being hit by a car. The bumper must be made from foam rubber or a flexible plastic material.
- 7.8. Bodies: Bodies must be a 1/10th scale touring car in character, their design being inspired by vehicles that exist or have existed, and must comply to the GLOBAL BODY SPEC 1/10th IC Track. Bodies need to be sent to the Bodysell Homologation Officer for approval as indicated in appendix 9. The EFRA Registration Number has to be embossed in the body at an edge of the front window.
- 7.9. The rear of the body may not be cut higher than 50.0 mm measured with a 10.0 mm spacer under the chassis plate when level.

- 7.10. Details of all; front and rear lights, grills, air intakes and windows must be clearly contrasted from the surrounded paintwork. No parts of the car except the muffler outlet may protrude outside of the body shell, when viewed from above. No parts of the car except the antenna, body posts, transponder, may protrude outside the body shell, when viewed from the side wall. No additions or reshaping to the original moulded body shell (no body stiffeners allowed).
- 7.11. Cuts outs:  
Only the following holes and sizes are permitted in the body shells:  
- Maximum two holes may be cut with a maximum diameter of 60.0mm each.  
**Note:** holes may not be combined. Minimum distance between holes: 5.0mm.  
- A hole with max. diameter of 35.0mm is allowed just above the engine cooling head for easy glow plug access but cannot be combined with any other hole, minimum distance between holes: 5.0mm.  
- Both front side windows and rear window can be removed for ventilation, but not the side rear windows, which must remain intact. Small holes can be made for the body posts, transponder, carburettor adjustment and radio antenna (max. dia. of 10mm).  
- The hole for exhaust pipe must be of reasonable size.  
- No other holes are permitted.
- 7.12. Wings and spoilers:  
- One wing and one 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 may not be fixed to body with piano wire (they must be mounted directly to the body).  
- Wing and spoiler must not protrude outside the maximum height and width of the body (incl. 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 mm at the furthest point, measured from the most rear point of the body.  
- Side dams may be fitted but must be a reasonable representation of those fitted do the original car, fit in a rectangle with the measurements defined, and must not project above the height of the roofline.  
- The height of the wing may be adjusted but the wing, including side dams, must not extend higher than the roofline.  
- Wings (excluding side dams) are to be of single moulded construction (no flat packs/bend your own).  
- No stickers to be allowed to be stuck on top of bodyshell.
- 7.13. 4WD and 2WD cars can be used without any technical restriction except those listed in Section 7. The use of separate front wheel brakes, except through trans.
- 7.14. Roll bars (roll over bars) must be kept under the body.

## 9. PENALTIES

- 9.1. Referees must issue a verbal blue flag warning to slower drivers or to make drivers that are not within the same lap as the car that is about to pass him, to make way and not to obstruct the passing car. This warning must be announced "ATTENTION DRIVER (Name)".
- 9.2. Failure to respond to the verbal blue flag will result in an official warning and the driver must make a mandatory pit-stop for 10 seconds. During this mandatory stop the Referee will administer the official warning directly to the driver. In the case that there is no possibility to call a driver for a stop and go penalty, the

- Referee and/or Race Director will announce a time penalty of 10 seconds.
- 9.3. Any driver who is given 2 (two) official warnings will be immediately disqualified from the race in progress. After 3 (three) warnings the driver will be disqualified from the entire event.
  - 9.4. Deliberate waiting for other cars will be treated as a verbal blue flag offence and a "Stop/Go" penalty issued. The Referee will advise the driver that his behaviour has been noted and that he should race normally. Failure to follow the Referees instructions will result in immediate disqualification. In the case that there is no possibility to call a driver for a stop and go penalty, the Referee and/or Race Director will announce a time penalty of 10 seconds.
  - 9.5. Deliberate obstruction of other cars in an attempt to influence the result of a race will lead to immediate disqualification and loss of his/her International Registration until after the next event of the same kind. (e.g. GP/EC/WC).
  - 9.6. The complete car and fuel gun to be over the board for fuelling. Failing this will result in a stop and go penalty or drive through depending on the track, and discretion of Referee.

## 10. **GT TECHNICAL RULES**

The basic principle for this class is the use of off-road cars and/or off-road parts, although we cannot prohibit the use of a single designed car for GT in the future. EFRA will follow rules approved in IFMAR GT 1/8th Powered 4WD Track. For any technical rule not covered in this chapter, EFRA will follow last rule approved by IFMAR and published in IFMAR web page [www.IFMAR.org](http://www.IFMAR.org).

GT cars called "SUPER GT cars" may be invited to participate in events held in Europe as "invitational class".

### 10.1 Technical rules

The chassis must have a minimum kick-up 5 degrees in front. No carbon fibre chassis allowed. The kick-up needs to have a minimum length of 30mm and lower suspension arms must be mounted on the kick-up.

Kick-up must start at a reference point from the middle point of the gearbox (or main gear) min 100/max 230mm.

Drive shafts must be used all around. All driveshaft must be made in steel (not lightweight materials like Aluminium or Titanium).

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

One-ways, spools, locking "Torsion-type," or externally adjustable differentials are not permitted. Front & Rear geared Differentials can only be tuned with the use of silicone-based oils. No centre differential allowed. Ball differentials not allowed/only gear differentials. Front and Rear differential gear ratios must be identical. Front or rear underdrive or overdrive is not permitted. The rear differential must be "finger proof", so it must be at least partly covered in case of an open differential. The final drive ratio front and rear must be the same.

Overall dimensions of the chassis:

Height: minimum height 155.0mm with chassis plate on 20mm blocks.

Wheel base between 320-379mm

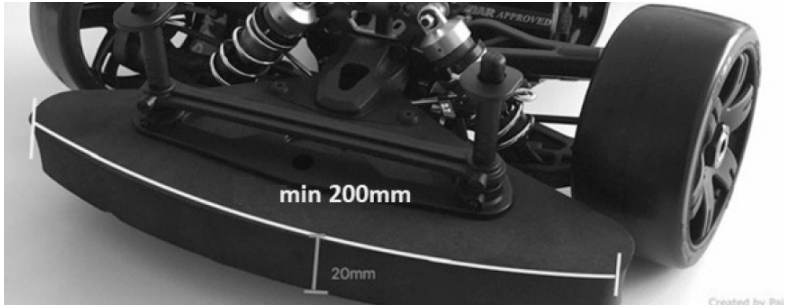
Length Maximum: 590mm

Width max 310.0mm, including wheels, axles and wheel-nuts.

The front of the car must be equipped with a bumper made from flexible "foam" material with all corners and edges rounded off. The contour of the bumper will



follow the contour of the body. The bumper may not protrude in front of the body. Minimum dimensions 200 x 20mm.



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

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



Direct Drive, i.e. single speed or maximum two speed gear box Minimum weight in order to run with empty tank is 3500 grams.

10.2

Engine rules

Engines allowed will be .21 or 3.5cc engines. Maximum carburettor diameter is 7mm. The motor shall be air cooled. Conical plugs allowed.

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

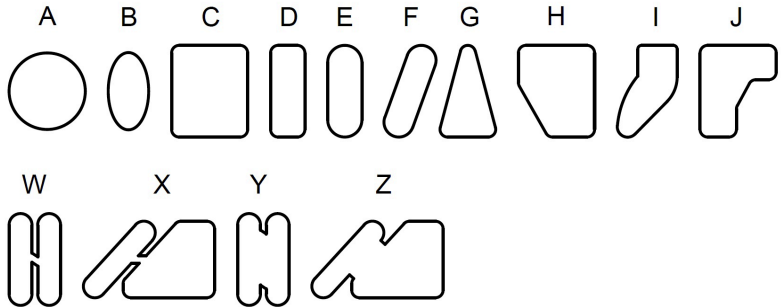
A maximum of 5 inlet ports or booster ports. Any hole will be considered as one of the 5 allowed.

The definition of 'port' is a hole in the cylinder liner for fuel inlet or exhaust extraction. The inlet and exhaust holes/ports can be any regular recognised shape, eg. Circle, Ellipse, Square, Rectangle, Triangle, Pentagon etc., or Polygon shapes that are recognised as not being regular shapes joined with a 'slot' or hole. Corners and ends of any shape can be radiused and any individual side does not have to be a straight line. A maximum of two additional "lubrication" holes are allowed under the exhaust ports, with the restriction they will start opening with the piston closing the exhaust port Examples:- Shapes A to J are allowed. Shapes X to Z are not allowed. See drawing on next page:

**The INS box is mandatory.**

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

**Approved / registered or homologated 3 chamber mufflers** according to the EFRA list, including INS box list. It is not allowed to use some kind of trumpet to direct the exhaust fumes outside for muffler outlet pipe, they make too much noise. Using a rubber stinger on the outlet pipe is OK, as long as the



## 10.3

noise is not higher. Definition of Trumpet in this instance: Any addition to the pipe or body that increases the DB level, as determined by race management.

**Body Rules**

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

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

Wing width max 310 mm, including side plates, but never wider at the rear of the body. Wing chord max 80 mm. Wing endplates maximum 40 x 80mm.

The body must be mounted to the sprung mass of the car at front and rear. No mounting on the suspension uprights allowed.

The body must have visible windows, body panel and trim markings, and the windows must be mostly clear. Some intrusion for creative painting purposes and tinting is permitted, but the windows must be transparent. Bodies must have headlights and grill details.

1 piece body moulding to avoid internal aerodynamics. A diffuser mounted on the rear of the chassis is allowed as long as it stays inside the body and not wider as the inner measurement of the wheels. The diffuser must be made of flexible material without any sharp edges.

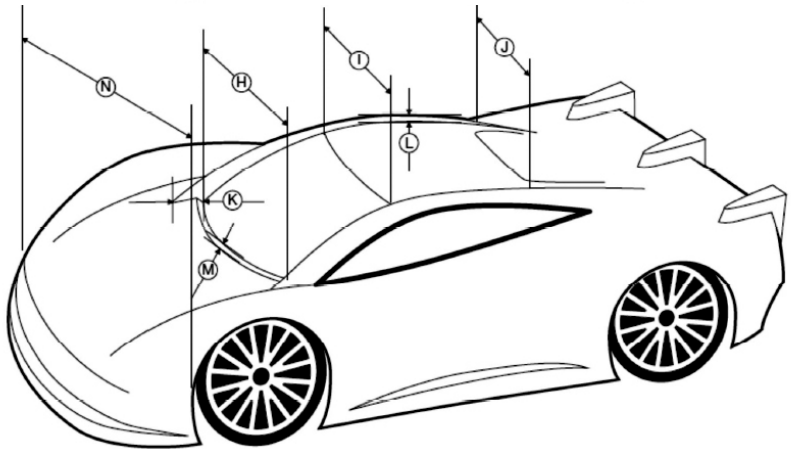
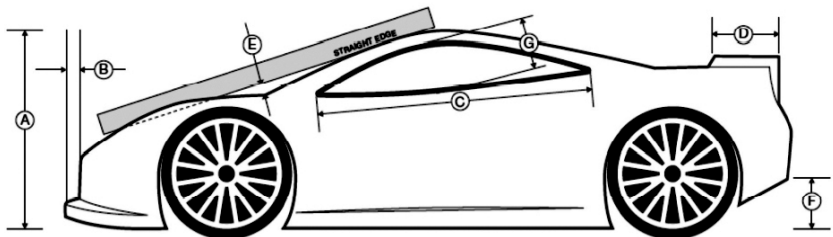
No internal body supports / stiffeners / braces allowed to avoid lightweight bodies with internal modifications and add-ons, excluding reinforcement of the wheel arches and back boot lit is allowed. The body must rest on a maximum of 7 posts, of which 5 can protrude outside the bodies. Bodies must be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

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

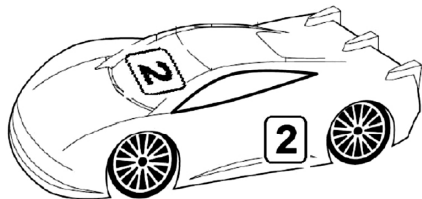
Bodies must be within the GBS dimensions by IFMAR. See drawings below.

- A) Minimum 155,0mm (with chassis on 20mm blocs),
- B) Maximum 15 mm depth
- C) Minimum 170mm

- D) Maximum 3 posts 50mm x 20 mm
- E) Minimum 12,0mm, gap between straight edge bottom and hood plane where it meets windshield.
- F) Maximum 75,0mm (with chassis on 20mm blocs)
- G) Minimum 36mm
- H) Minimum 200mm
- I) Minimum 145mm
- J) Minimum 130mm (top inside edge of C-pillar)
- K) Maximum 8mm depth of A-pillar above the windshield surface plane
- L) Maximum 5mm height of outer roof rail above the roof surface plane
- M) Maximum 4mm stagger between hood and windshield
- N) Maximum 317mm, minimum 300mm overall width

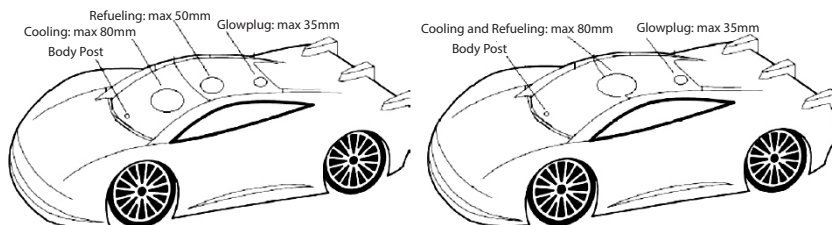


Numbering of the cars. Cars will be numbered 1 to 10 or 1-12 in each heat. The car must have 3 numbers. Only the numbers supplied by EFRA will be used on the cars. They may not be cut out to eliminate the background. 2 Numbers on the sides in front of the rear wheels, 1 in front on the hood or window. These numbers will change during the qualifying heats (after re-seeding).



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

Holes in the body. Holes in the body for fuel-gun, fuel tank opener, aerial, glow-plug, carburetor access and exhaust. Rear and side windows may be removed. Maximum height of 75mm cut-out at rear on 20mm blocks. One opening may be made in the front windscreen with a maximum dimension of 80.0mm in any direction for refueling and/of engine cooling. An additional hole for refueling in the roof of 50mm is allowed and 35mm for the glow plug. Minimum distance between holes is 5mm. An extra hole for ty-rap to open tank in the front windscreen will be allowed, max. 10mm See drawings:



#### 10.4 Race Format

Race format will follow same procedure than other classes of IC section with exception of length of the Control timed practice heats and Qualification heats that will be 7 minutes of duration, refueling forbidden. (see rule 2.2 to 2.8 appendix 1).

#### 10.5 Tyre Specifications

Controlled tyres for all EFRA events for GT class which means 1 brand. The official tyre supplier must be EFRA ASSOCIATE MEMBER. The commercial part of the controlled tyre is an agreement between organizer and manufacturer. EFRA has to be informed of the price of set of tyre and EFRA has the right to impose a fix price for a set of tyres. Once chosen for an event the same manufacturer is not allowed to supply tyres for the next EFRA GT event.

Tyres for front and rear are the same dimensions. The tyres must be made of rubber, no foam tyres. An insert is allowed. Tyres must be limited per driver for practice and race with only 1 extra set for the main final. Tyres must therefore be impounded, 1 box per driver. Holes in the rubber tyres are allowed, so as the rim. Will be better for temperature. No additives on the tyres allowed under any circumstances.

Tyres width, max 45mm

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

Rim Off set positive, +/- 7 mm because the use of controlled tyres.

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

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

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

Number of tyres for an EFRA event must be specified and will depend on track layout and tyre wear.

*I.E. 1 set for Practice, 2 sets for Qualifying+super-pole, 1 set extra for subfinals, 1 set extra for main final. All used tyres available for substitution. Tyres will be marked with the drivers registration number.*



10.6 FUEL Specifications

Fuel or fuels must be commercially available. Fuel may only contain methanol (methyl alcohol) CAS number 67-56-1, and/or Ethanol (Ethyl Alcohol) CAS number 64-17-5, lubricating oil, a small content of anti-corrosion chemicals and maximum 16% for 1/8 and 16% for 1/10 of nitro methane (Cas number 75-52-5) in volume. The specific gravity of the mixture may not be heavier than 0.87 grams/cc IN WEIGHT (not in volume), at 20°C and standard atmospheric pressure. Measurement will be done with a nitromax 16% in the pit lane and/or anywhere inside the venue. For quick testing a Nitromax 16EU can be used. Any fuel detected heavier than 0.87 will mean that the driver will have the result deleted from the heat or final where the fuel was found too heavy. The following additives are strictly prohibited; Hydrazine, Hydrogen Peroxide, Toluene, Propylene Oxide.

If an EFRA World Championship Event is to be run at a Country which permits the use of a heavier content of nitro methane (up to 25 % in volume) and the Organizer can ensure EFRA and the participants its supply track side, then the limits will be according to the IFMAR with a maximum 25% of nitro methane (Cas number 75-52-5) in volume, using for quick testing the corresponding Nitromax tool.

10.7 PROHIBITED or NOT ALLOWED

- Use of one way bearings, except for the 1st gear of a 2-speed transmission.
- Belts.
- Extra Body support struts for lightweight bodies, except those mentioned in the rules.
- The use of traction control devices, active suspension devices and any steering control aided by gyroscopes/'G'-force sensors is strictly forbidden.
- 4 wheel brakes. Independent controlled braking on the front wheels is not allowed.
- Hydraulic braking systems.
- More than 2-speed transmissions.
- Quick change wheel systems are not allowed, or the use of electric, spring or flywheel based tools to change wheels.

11 1/8th ELECTRIC CARS

- 11.1. Car must be an 8th scale electrically powered character representation of a racing car within the given dimensions. Maximum width of car is 267 mm, this excludes the body shell which has its own dimensional rules.
- 11.2. On all cars braking must be a combination of electronic speed controller and motor (dynamic braking) only via the single speed fixed transmission to the rear wheels.
- 11.3. All cars must be fitted with a failsafe device, this can also be incorporated into the receiver or speed controller.

- 11.4. 1/8 Scale Electric Track Cars will be driven by Lithium based batteries with a nominal voltage of no more than 15.2 volts (4S). It is allowed to use 2 x 2S or 4 x 1S. If multiple individual batteries are connected together (in parallel or series), then all batteries used must be of the same manufacturer brand and same Part Number.
- Only homologated batteries shown on the EFRA Approved Lists on the official EFRA website will be legal for use at EFRA sanctioned events.
- All Lithium Batteries must comply with the published data shown on the EFRA Approved Battery Lists. Batteries that are not compliant with the dimensional rules or published weights will not be allowed.
- LiPo/LiFe drive batteries must be in a 'Lipo sack' at all times when being charged or discharged. This applies to any discharging procedures except during a race or when using organiser supplied resistors. Anybody not doing this will be penalised at the event. LiPo sack is defined as a receptacle designed for the purpose of charging LiPo/LiFe batteries and of a suitable construction as to contain a LiPo/LiFe fire.
- The maximum charging cut-off voltage is 4.20v per cell in series (16.80v for 4S). Organisers can check this voltage at any time during the event.**
- All Rules concerning:- Technical Specifications, Race Procedures, Homologation Procedures, for Lithium Batteries can be found in NEW APPENDIX 4.**
- SUSPENSION CLASS (4wd With Suspension)
- 11.5. Minimum weight to be 2500g (ready to race).
- 11.6. The brushless motor (less than 2800kv) and speed controller combination must be or have been previously commercially available and have a maximum recommended retail price (RRP) of 350 Euro including all taxes. The motor must have a 5mm pinion shaft.
- 11.7. Speed controller reverse operation must be disabled.
- FLAT PAN CLASS (4wd Without Suspension)
- 11.8. Fixed chassis cars without any moving suspension components. No dampers allowed, or springs. No oil may be used other than on bearings/belts and drivetrain.
- 11.9. Minimum weight to be 2100g (ready to race).
- 11.10. The brushless motor (Maximum of 2200kv) and speed controller combination must be or have been previously commercially available and have a maximum Euro recommended retail price (RRP) of 350 Euro including all taxes. The motor must have a 5mm pinion shaft.
- 11.11. Speed controller reverse operation must be disabled.
- 11.12. BODIES  
Bodies must follow same rules like 1/8th IC cars (see 6.7 to 6.9 Appendix 1).
- 11.13. CUTS OUTS  
One cut out for cooling of motor and esc is permitted with a total area of 40x40mm. Conveying guides inside the body are permitted but no outside additions.
- 11.14. WINGS AND SPOILERS  
Wings and spoilers must follow same rule like IC cars (see 6.12 Appendix 1).
- RACE FORMAT
- 11.15. QUALIFICATION
1. Heats must be separate between categories: modified and stock. If the number of drivers in one category is less than 10 drivers, all drivers racing



in 1/8th electric class must race together and then, and results will be separated.

2. The Qualifying Heats will be 5 minutes and the last lap plus the time to complete this last lap up to a max of 40 seconds
3. 5 Rounds of Qualifying will be run, irrespective of the number of drivers. Qualifying will be 5 minutes + last lap
4. In Qualifying Rounds the Round by Round point system will be used (same system as IC cars, see 2.4 Appendix 1).
5. The qualifying heats will be a maximum of 10 drivers and where possible equal number of drivers in each.
6. Starting for qualifying heats will be from the start line or pit lane, using the staggered start system (one by one). In each Round, the order of starting Heats will be same as rule 4.2 Appendix 1.
7. The qualifying results will determine the composition of all finals with the top 10 proceeding to the "A" final and so on down.

#### 11.16. FINALS

1. Durations for finals will be: 5 minutes + last lap (flat pan cars) and 5 minutes + last lap (suspension cars).
2. There will be 10 drivers in all finals where possible. Finals will be organized for all competitors. 3. If the lowest Final has less than 3 drivers, they will be mixed as equally as possible in the next Final, respecting their qualifying position for their start order.
3. If the lowest Final has less than 3 drivers, they will be mixed as equally as possible in the next Final, respecting their qualifying position for their start order.
4. The winner determined from the combined "A" finals will be the champion. If the A finals cannot be completed, the awards will be made based on the final Qualifying positions.
5. All finals will be run in 3 legs from slow to fast.
6. If three leg finals are run, then the best 2 out of 3 to count
7. The winner of a final gets 1 point; the second gets 2 points and so on up to 10 points for the 10th driver. In the event of a tie regarding time in a Final, the points will be equally awarded to each driver and the next driver not tying will be two points more.
8. In the event of a tied position the driver with the single highest finishing position in either of the best 2 finals that counted will be awarded the tie. In the event of a continuing tie then the laps and times from the highest finishing position will be compared. The driver with the fastest laps and time total will be awarded the tie. In the case of a continuing tie, then the times from the second-best position will be compared. When some drivers of a final do not run a final, they will be awarded the remaining points in the order of their car numbers.
9. Cars, which do not pass the start/finish line after the prescribed race time, will be classified according to the number of laps recorded. The "A" finalist with the lowest number of points will be the winner of the International Race.
10. All final results will be published at least 10 minutes before prize giving.
11. There will be awards at least for all "A" finalists, and the winners of any other final. If no round of Final(s) are completed the results of the event are taken on qualifying positions.

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## **GT ELECTRIC POWERED (GT EP)**

A Basic set of electric rules to be used for any EFRA European Event as supporting class . Brushless motors with the following maximum dimensions:

Diameter: max . 44 mm

Length: max . 75 mm

Motors with and without sensor are allowed.

GT Electric Track Cars will be driven by Lithium based batteries with a nominal voltage of no more than 15 .2 volts (4S). It is allowed to use 2 x 2S or 1 x4S. If multiple individual batteries are connected together (in parallel or series), then all batteries used must be of the same manufacturer brand and same Part Number.

Only homologated batteries shown on the EFRA Approved Lists on the official EFRA website will be legal for use at EFRA sanctioned events. All Lithium Batteries must comply with the published data shown on the EFRA Approved Battery Lists. Batteries that are not compliant with the dimensional rules or published weights will not be allowed .

LiPo/LiFe drive batteries must be in a 'Lipo sack' at all times when being charged or discharged. This applies to any discharging procedures except during a race or when using organiser supplied resistors. Anybody not doing this will be penalised at the event. LiPo sack is defined as a receptacle designed for the purpose of charging LiPo/LiFe batteries and of a suitable construction as to contain a LiPo/LiFe fire.

**The maximum charging cut-off voltage is 4.20v per cell in series (16.80v for 4S). Organisers can check this voltage at any time during the event. All Rules concerning:- Technical Specifications, Race Procedures, Homologation Procedures, for Lithium Batteries can be found in NEW APPENDIX 4.**

In GT EP cars is not allowed to cut the front windshield. The antenna hole (10 mm) and side windows can be cut out. Rear window can be removed. Additional cooling holes in the front where normally is the radiator of the respective body are allowed. If the dimensions of a single hole is bigger than 10 x 12 mm the area needs to be covered from inside with a corresponding grid. The electrical / electronic equipment consists of the battery (LiPo hardcase), controller (ESC) and a servo for steering. Electronic driving aids such as ESP and ABS are prohibited. Telemetry is allowed as long as they function is part of the remote control and the receiver, as well as the associated sensors. This applies also to passive devices for recording data, and video that have no device for radio transmission. GT carbon chassis for electric allowed. No kick up needed. Minimum weight : 3800 grams Length of the heat depending on track layout and after consultation with EFRA, it will be decided for any race before start by Race management.