



TECHNICAL REGULATION  
e-CSD 2019

By CSD Team

## 1. MODELS ADMITTED:

For this Le Mans test the grill will be made up of 3 categories.

### 1.1. LMP 1 (DISCA REGULATION annexed) Without power limitation (100% enabled)

DISCA Limitations:

- Motor Flat 6 de Slot-it (Ref. mn09ch), open side down.
- Compulsory ratio, 1: 1,24 (Exclusive for DiSCA regulation).

Check allowed DISCA models and other its other regulations



### 1.2. LMP 2 With Power limitation (Below 100%).

Any LMP1 and LMP2 from Slot.It (see exceptions list below). Slot.it Flat Motor with open side down.



**No están permitidos:**

Audi R18 E-Tron Quattro; Ref cw17, Ref ca29a

Audi R8c; Ref ca12a, Ref ca12b, Ref ca12c

### 1.3. GT SCALEAUTO With Power limitation (Below 95%).

Any Scaleauto GT is allowed. Slot.it Flat Motor with open side down.



Both LMP2 and GT will follow these regulations, for LMP1 DISCA check the specific regulations keeping the mandatory limitations, (ratio and motor).

## 2. BODY:

- 2.1. Any exterior aerodynamic modification on the original bodywork is prohibited. It must match the supported models.
- 2.2. Body filing, sanding or recessing of the body is not allowed, except for the elimination of burrs of plastic or paint to facilitate body tilt, being this minimum and clearly for this purpose and not exceeding 0.3mm, tolerances are slightly increased once the car is running on the track.
- 2.3. It is forbidden to alter any other aerodynamic aspect on the body. The air inlets, heel pockets, flaps, spoilers, leaks that are supplied in the standard car must be respected.

The wing is mandatory and will be placed in its original place respecting its anchors. It is allowed to reinforce the fixation of this to the support by means of adhesives, contact adhesive and / or transparent adhesive tape or the same colour as the spoiler, without excesses and without altering its aesthetic appearance from an overhead view, that is, the tape will be placed by the lower part of the spoiler to fix it to the support. In case of loss of the spoiler it is mandatory to stop for repair in the following laps, it will be placed in its original place, that is, in its anchorage points and, it is allowed to use adhesive tapes for its fixation with the exception that in this situation does not prohibit that said tape be seen from a top view.

Race on 29 y 30 June 2019

The tape used for this type of repairs will be a single fragment and must not exceed 1 cm. of width nor 3cm. long.

- 2.4.** The minimum weight of the body is 21 gr. (included driver housing and lighting kit). Without screws. The lexan cockpit of each model is allowed, but lenses must be made of plastic.

Lexan LMP 2



Lexan tipo GT



- 2.5.** The cars must keep all the elements and characteristics in dimensions of the original models. The body must cover all the mechanical elements: motor, transmission, cables and guide, in its vertical view, or through the glass or headlights.
- 2.6.** It is possible to remove or add antennas, wiper blades and rear-view mirrors (if they come separately from the body). It will be obligatory to assemble the original slot-it lighting kit without modifications or extra led, race will NEVER run in total darkness. The cable to the LEDs will be of free choice.
- 2.7.** Vehicle base colour can be of any chose, but the body must be painted. No out from the kit box bodies will be allowed, even if they meet the minimum weight.
- 2.8.** The cockpit is part of the body for weight purposes. Its function will be to separate the body of the chassis so that it does not allow the view of mechanical elements of the car. Inside, driver body must be placed logically. The decoration is free. The body window panels must be the car originals. The cockpit should be minimally decorated, identifying at least the pilot.
- 2.8.1.** The three-dimensional pilot must be seen from the front and the side of the car when placed on track i driving position. It is obligatory to paint.

2.8.2. Lexan cockpit is allowed when it is used the original created for the chosen car model.

2.8.3. The use of homemade cockpit is forbidden, it must be from any recognized slot manufacturer and manufactured for that particular car model.

2.8.4. It is possible to flatten the lexan slightly to avoid its contact with the chip capacitor and to facilitate the tilting. If this action is exaggerated or a severe deformation of the lexan is visualized, it will be forced to return it to its original position or if it were not possible to replace it completely.

2.9. The body optics/windows/etc. must be the original ones of the car in the plastic version.

2.10. It is allowed to pierce the cockpit and the crystals for the antenna output of the chip. Without excesses.

### 3. CHASSIS:

3.1. The chassis will be the original supplied by the manufacturer in its different versions, without any modification, except those described below:

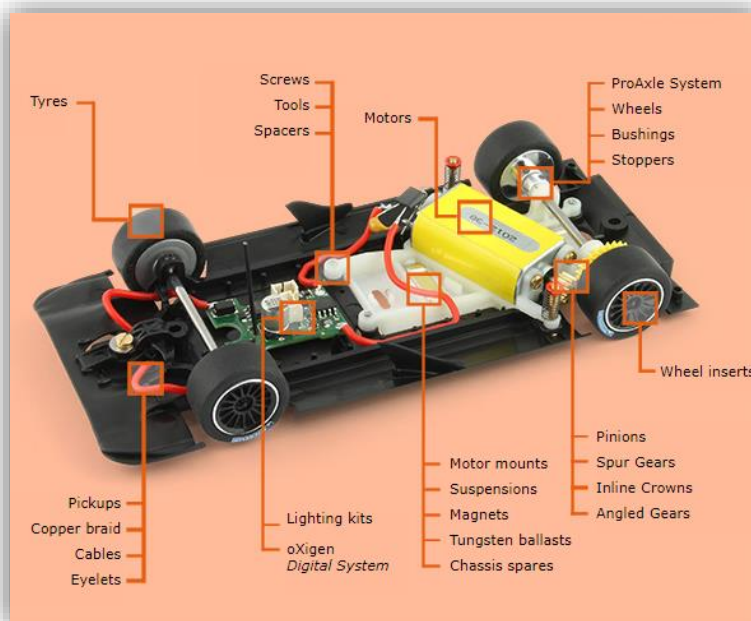
3.1.1. A small gap is allowed between the body and chassis, to allow free movement.

3.1.2. A small gap is allowed between the motor mount and chassis, to allow free movement

3.1.3. Heating the body sides to create a gap to the chassis is allowed. Without exceeding, nor aberrations.

3.1.4. In those chassis that do not have a perforation already made by the manufacturer for the led of the chip, it can be done to correctly arrange the lane change sensor of the chip.

Chassis LMP 2 type (Grey Motor pod, 0.5 mm on its 3 versions)



Chassis type GT Scaleauto



**3.2.** Any possible modification to solve a tilting problem that is not contemplated in this point will be previously consulted with the organization, which will authorize it or not and, where appropriate, it will be included in these regulations or in an annex to this effect.

**3.3.** Motor position: Angle.

**3.4.** Magnets: Prohibited except those of the motor itself.

**3.5.** Ballast is not allowed. If the body does not reach the minimum weight, it will be weighed between the cockpit and the front lug until the minimum weight is reached. If this circumstance occurs, the ballast must be inscribed with the equipment ID number.

**3.6.** Guide support: The original of the chassis without any modification.

**3.7.** Axle support: The original of the chassis without any modification.

- 3.8. Body support: Through the system supplied as standard without modification, if screws are used, these can be replaced by others within any commercial brand of the sector, regardless of the material.
- 3.9. Motor support allowed: AngleWinder, plastic brand slot.it, without modifying neither support nor chassis, except elimination of perimeter burrs without excess, and without this modifying the original measurements of the bench. Mandatory bench gray 0.5 mm.

The allowed references are:

**Product code: CH60**

Description: Anglewinder motor mount 0.5 mm offset Boxer/Flat – Evo6 –  
MEDIUM

New product / replacement: new



**Product code: CH60b**

Description: Anglewinder motor mount 0.5 mm offset Boxer/Flat – Evo6 –  
HARD

New product / replacement: new



**Product code: CH75**

Description: Anglewinder LMP 0.5 mm offset Boxer/Flat – Evo6 –  
New product / replacement: new



#### 4. SUSPENSIONS:

4.1. The use of suspensions, mounted in the place provided by the manufacturer, is allowed.

4.2. Mandatory suspensions:

**Product code: CH47b**

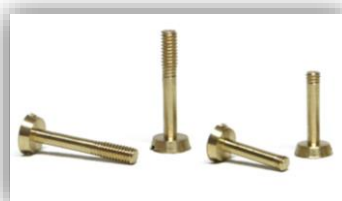
Description: Universal spring suspension Kit

New product / replacement: replaces CH47



#### **Allowed Spare Parts:**

Slot.It Wide head screws CH59:



Slot.It Aluminium Suspension Stops CH77:



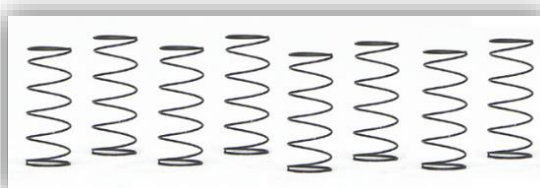


## Springs

Slot- it CH55A Soft Long:



Slot-it CH55B Medium Long:



Slot-it CH55C Extra Soft short:



## 5. TRANSMISION:

**5.1.** Type: Mechanical by means of the gear of a pinion and a crown. Rear traction.

**5.2.** Pinion: Obligatory of 12z. Of any mark, it must strike (attack) directly on the crown of the rear axle. It can be welded to the motor shaft. For LMP2 and GT.

**5.3.** Crown: Mandatory 26z. It must be manufactured by any slot brand. For LMP2 and GT.

**5.4.** Braking systems: Only the brake produced by the motor itself is allowed. Any additional brake is prohibited.

**5.5. Axes:** They are of free choice within those supplied by any commercial brand, without any modification (length, cuts or diameter). These must be placed in their natural position, rotate freely with an impact on both wheels at the same time.

5.5.1. In no case will the axles be able to stand out with wheels and tires mounted on the wheel track with the vehicle seen from above.

5.5.2. The height and position of the front axle can be adjusted using the following options:

5.5.2.1. Through plastic inserts or lugs, located in the chassis.

5.5.2.2. With the M2 Allen screws, in the holes provided for this purpose.

5.5.2.3. The CH-56 bearings (bronze or brass) fixed and regulated to the shaft can be assembled using the Allen screws provided by SLOT.IT.

**5.6. Bearings:** They can be any of those supplied by any commercial brand. It is not allowed to modify the outer profile of the bearing. It is forbidden to stick the bearings to the base.

**5.7. Separators / centering devices:** The use of two washers and two centering devices or stoppers on the rear axle is permitted, provided that it is not clearly intended for lapping the vehicle and only when they fulfil a mere function of eliminating gaps. The spacers will be located outside the bearings next to the rims or crown. On the front axle, two spacers that will always be placed next to the rims and on the outside of the anchors and always with the clear function of eliminating slack and not clearly to ballast the vehicle.

## 6. WHEELS:

**6.1.** They must be composed of rim and tire.

**6.2.** The rims must be identical in dimensions and design on both sides of the body (the front may be different from the rear) with a minimum diameter of 15.8mm. It may be of any commercial brand. The front tires should turn in unison. The rear wheels may not be less than 16.9mm.

**6.3.** The tire will be delivered by the organization.

BRAND: SLOT.IT

MODEL: 1207F22 (6 pairs) + 1207N18 (1 pair)

1207F22



1207N18



6.3.1. Teams will be required to use the two tire references in the race. While the rest of the 1207F22 tire sets will be optional. Failure to comply with this article will lead to disqualification. Tire changes should always be made in the repair box.

6.3.2. Only 7 pairs of tires per equipment (6.3) will be delivered, with no possibility of change once used.

If a team breaks a tire because it centrifuges and the crown damages it, it will NOT be able to request that they replace that rubber, they will have to finish the race with the remaining 6 and a half pairs making the changes they consider necessary.

6.4. The rim in addition to its original fixation can be reinforced in its bushing with glue without excess, but it cannot be modified in any aspect.

6.5. The complete wheels mounted on the axle cannot protrude from the projection of the bodywork observed from an overhead position. (Seen from above).

6.6. In flat bottom rims, the presence of hubcaps made of rigid plastic, resin or metal is mandatory.

6.7. The cleaning of the tires is allowed exclusively with the alcohol of organization that will be found in the table of boxes where EXCLUSIVELY the rubbers will be able to be cleaned.

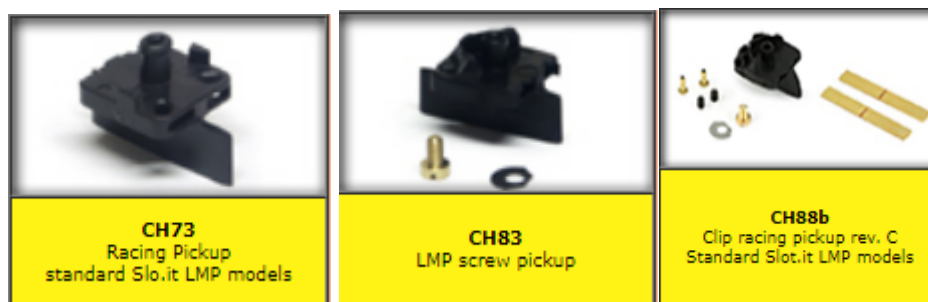
6.8. It is forbidden to glue the tires to the rim.

## 7. GUIDE, CABLES AND BRAIDS:

7.1. Cables: Free choice and brand.

7.2. Guides allowed: Located in the original position that is prepared for it in the chassis, it is not allowed to force or modify the chassis to fix it. It is allowed to file the shovel.

LMP 2 Allowed Guides



Allowed Scaleauto GT guides

SC1604



SC1608



SC1620



**7.3. Braids:** Free choice within those supplied by any commercial brand.

## 8. MOTOR:

The motor will be delivered by the organization.

MNUFACTURER: Slot-it

MODEL: Flat

Ref.: mn09ch

This is mandatory motor for all three categories, mounted with the open part down.



- 8.1. It will be of strict series without any modification should respect without modification the components that were originally supplied in each engine: Box, Armature, Head, Springs, Support of the coals, clips, magnets, coals, screws and bearings.
- 8.2. It must be sealed, and any mark of possible manipulation will lead to disqualification. Prohibited to eliminate the label. In its closed track position for LMPs and open for GTs.
- 8.3. No electrical, mechanical or electronic element that alters the performance of the motor can be added or manipulated.
- 8.4. The use of original magnetic field enhancers is prohibited.
- 8.5. The engine can be fixed by the original fastening system or assisted by glue and / or adhesive tape to the chassis, without excess, although this always has to also hold the motor support.

## 9. WEIGHTS AND MEASURES

- 9.1. An increase in body weight is allowed due to decoration.
- 9.2. The minimum weight of the body is 21 gr.
- 9.3. At the start of the race, the minimum distance from the engine to the ground will be 1mm. If a car scratches the track due to lack of tires, the race directors may force the change of tires, in the case of track shorts.
- 9.4. The front wheels are not forced to touch the verification plate, but if they rotate freely on their axis.
- 9.5. Throughout the race all the measures can be verified by the race director at any time at the request or claim of any driver or decision of the race director himself. If it is found incorrect, the team must stop in the pits to solve the error.

## 10. MANDOS:

- 10.1. Slot.it SCP-1.0 - 1.1 – 2.0 + Oxigen cartridge are the valid controllers.
- 10.2. Slot.it Live Timing Box is allowed



## 11. ELECTRONIC CHIP:

- 11.1. Valid slot.it references are: SI-O201b / SI-O201b-1 / SI-O201b-2



- 11.2. The fixing of the chip to the chassis will be done either with thermo-fusible glue or with double-sided tape, without excesses of any kind.
- 11.3. The cables of the chip can be changed. Mandatory to keep the ferrite and forbidden to add elements to the chip.

## 12. VOLTAGE:

- 12.1.** Competition Will run at a fixed voltage of 12.5 Volts.

## 13. CAR FAILURES AND LOSS OF PARTS:

- 13.1.** It is mandatory that during the Pole or the Race all registered vehicles circulate with its spoiler, glass, body parts that prevent seeing mechanical elements from the outside of a size equal to or greater than 2 X 1 centimetres and wheels (tires, rims and hubcaps, if applicable). In the case of loss of any of said elements, three laps will be available to carry out their repair. You will not be able to run the last minute without these. If the breakdown occurred at the last minute, it must be repaired in the pits on the next lap. If not, no return will be valid until its return. In all cases these pieces will be placed in their original place and can use adhesive tape, without excess.
- 13.2.** In the event of breakdowns such as chassis or engine support, elements of the transmission, electronic chip, engine, cockpit, headlights, grilles, mirrors and / or antennas, repair will not be required as long as there is no risk of loss of parts that can be on track affecting traffic or that the damaged vehicle circulate at an abnormally lower speed can cause incidents to other cars.
- 13.3.** The loss of parts of the body that entail seeing mechanical elements from the outside will be considered as Article 13.1, will have three laps for repair.

## 14. LIGHTING:

- 14.1.** All cars will be provided with lights, the slot-it light kit is only allowed without any modification; SP16c.
- 14.2.** During the race it will be essential that a front and a back as minimum are turned on, in case they both fail, it will be obligatory to repair the kit.



**15. GENERAL PROVISIONS:**

- 15.1.** All the aspects not contemplated in this technical regulation will have to be validated by the career director and designated verifier, who will decide if they are viable.
- 15.2.** The registration in the race means the full acceptance by the team of what is written in this regulation.

**16. ANEXO:**

- 16.1.** Remember that it is only feasible to use lexan crystals if the vehicle without ballast and with the lexan cockpit, still gave above the minimum weight.
- 16.2.** The organization reserves the right to add different brands or models that may be interesting during the competition, although it undertakes not to eliminate any of the models already presented.



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## *Summary:*

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- Open Motor Flat 6 Slot-it Ref. mn09ch
- Motor open side down.
- **Bodyshell 21 gr.**
- Original Chassis or original manufacturer spare part.
- Slot.It AW -0,5 motor pod, medium or hard, arms can be cut on evo6.
- Slot.It spring suspension is only allowed, spare parts only original from Slot.It spring Kit.
- Slot.It lighting Kit.
- Slot.It (LMP2) or Scaleauto (GT) original guides.
- Front tires with a minimum diameter of 15.8 and rear tires with a minimum diameter of 16.9.
- Flat bottom rims should have hubcaps.
- Tires; 6 pairs of 1207F22 and 1 pair of 1207N18
- Fixed ratio of 12/26.