

**European Endurance Championship Slot.it 2010
Technical Rules (EN) Revision 2010.3 (31/08/2010)**

Preamble

This document is the exhaustive coverage of the requirements for conformity of all car's allowed to race in the European Endurance Championship. Changes that are not stated in these regulations, are forbidden. The English version must be taken as the reference in case of any dispute.

1. Model cars:

Porsche 956LH, Porsche 956KH, Porsche 962C, Mercedes Sauber C9, Jaguar XJR9, Lancia LC2, Jaguar XJR12, Mazda 787B, Porsche 962KH, Toyota 88C.

Porsche 956LH 	Porsche 956KH 	Porsche 962C 	Mercedes Sauber C9 
Jaguar XJR9 	Lancia LC2 	Jaguar XJR12 	Mazda 787B 
Porsche 962KH 	Toyota 88C 		

1.1 All parts of the model must be the ones used in the out of the box cars.

1.2 Any replacement with non serial parts or modifications of the serial parts are permitted only if stated by this regulations.

2. Model chassis

Only the new revision (EVO) chassis by Slot.it are allowed. These chassis are characterized by the presence of a circular revision indicator in the inside surface of the chassis, and by the embossed Slot.it logo inside a recessed square. The "Chassis Table" below lists all codes of the qualified chassis.



2.1 Chassis means the entire assembled and glued set of component parts. The two triangular shaped fillers are the only exception and may be removed.



triangular shaped fillers

Chassis Table

Brand	Model		Type	Revision
		Chassis		
Porsche	Porsche 956 LH	CS02T-AW	EVO	1
	Porsche 956 KH	CS09T-AW	EVO	1
	Porsche 962 C	CS03T-AW	EVO	1.2
Sauber	Sauber C9 Mercedes	CS05T-AW	EVO	1,2,3,4,5
Lancia	Lancia LC2	CS08T-AW	EVO	12, 1
Jaguar	Jaguar XJR9	CS13T	EVO	1
	Jaguar XJR12	CS13T	EVO	1
Mazda	Mazda 787B	CS15T	EVO	1

2.2 Locating pins of the triangular shaped fillers can be removed by all chassis.



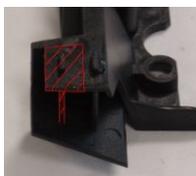
Locating pins

2.3 Changes are allowed to the Lancia LC2 and the Porsche 962 as stated by the following paragraphs.

2.3.1 Lancia LC2

2.3.2 Porsche 962

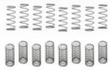
2.3.1.1 in order to install the rear LED properly, part of the small separate part of the rear chassis can be removed as shown in the picture.



2.3.1.2 A small hole (max diameter 2.0 mm) can be drilled in the chassis in correspondence to the grub screws of the spring suspension

2.4 The underneath of the chassis, including any spare, must bear on the external surface the name of the racing Team.

2.5 Maximum external tyre-to-tyre width for front and rear wheels is respectively 62.5 mm. and 63.5 mm.

2.6 The installation of the spring suspension codes CH47 or the magnetic CH09 is allowed at the rear of the Motor chassis.	
 <p>CH47</p>	 <p>CH09</p>
<p>2.6.1 The parts of CH47 and CH09 cannot be interchanged..</p> <p>2.6.2 the threaded part of the spring suspension screws can be shortened.</p> <p>2.6.3 Springs CH55A e CH55B can be used on the C47 suspension kit</p>	
 <p>CH55A e CH55B.</p>	
2.7 The front axle supports are optional. M2 screws can be used under the axle in their receptacles	
 <p>SP07</p>	 <p>PA05</p>
2.8 The minimum clearance of the chassis from ground, measured at the front axle zone is 0,1 mm. The minimum clearance in the rear axle zone is 2,2 mm. with new tyres	

<h3>3 Motor Chassis</h3> <p>The angle winder long can CH29 motor chassis, (not offset), both in its new form with 4 screw holes and in the old type can be used</p>	
 <p>CH29 Angle winder Boxer/NC chassis</p>	
<p>3.1 One stopper (PA25) at the least must be used either between the right hand side wheel and the motor mount or on the side of the motor mount central support closer to the right wheel</p> <p>3.1.1 A second stopper (PA25) can be used on the side of the motor mount central support closer to the crown.</p>	
 <p>Stopper PA25</p>	
<p>3.2 The two original spherical bushings CH14 are mandatory and must be housed in their original position.</p> <p>3.2.1 Bushings cannot be glued into their housing and must be free to rotate inside their housing.</p>	
 <p>CH14 bushings</p>	

4.0 Body

4.1 The Body must be complete in all parts, except for mirrors, wipers, antennas and other parts specified in chapter 6.

4.2 The body cannot be made lighter by sanding or by any other means.

4.3 The weight must not be less than the out the box models as listed in the "Body Weight Table".

4.3.1 The min weight listed by the table includes the modifications of Chapter 6 and is without screws.

4.3.2 The lighting kit weight must be added to the minimum body weight. The SP16 is worth 3.0 g, the SP6 is worth 1,7 g.

Body Weight Table

Code and Model		Weight (painted, g)	W painted + SP 06	W painted +SP16	Permitted at the selected Race only
CA02 (Porsche 956 LH)		20.0	21.7	23.0	Verbano
CA03 (Porsche 962 C)		21.0	22.7	24.0	Verbano
CA06 (Sauber C9)		21.0	22.7	24.0	Verbano
CA07 (Jaguar XJR9)		21.5	23.2	24.5	Bruxelles
CA08 (Lancia LC2)		20.0	21.7	23.0	Bruxelles
CA09 (Porsche 956 KH)		21.0	22.7	24.0	Igualada
CA13 (Jaguar XJR12)		20.0	21.7	23.0	Igualada
CA15 Mazda 787B		19.0	20.7	22.0	Igualada
Porsche 962 KH		18.5	20.2	21.5	Bruxelles
Toyota 88C		tba	tba	tba	Bruxelles

4.4 The body external surface only must be completely repainted so that no unpainted areas remain (no clear coat on unpainted white). The interior side must remain unpainted. The driver may be painted.

4.4.1 The rear wing may be either painted, decorated or left unpainted.

4.4.2 Glasses must remain transparent and unpainted to allow the view of the car's interior.

4.4.3 The team's name must be written either on the rear wing or on the sunscreen of the windshields.

4.4.4 A car failing to comply with the minimum weight will be penalized by additional ballast, to reach +3g on the weight table, placed behind the cockpit.

4.4.5 Tabs bearing the European Championship numbering must be present and will be provided by Slot it at the time of the race.



4.5 The Body Must be fastened to the chassis through the screws like in the box car.

5. Lighting Kit

Mandatory.

5.1 The Lighting kit must be either of the type SP16 or of the type SP06 and must be secured or glued firmly in place to the chassis or the body or the Interiors.

SP16



SP06



5.2.1 LEDs can be changed with different ones provided they have a maximum diameter of 3mm.

5.2.2 Front replacement LED must be of the same colour either white, yellow or blue.

5.2.3 Rear LEDs must be red.

5.2.4 It is allowed to use four front LEDs, as long as they are placed consistently with the position of the front lights in the model car.

5.2.5 Wires, that is any cable soldered directly to the PCB, can be de-soldered and replaced with a different type of wires.

5.2.6 A switch may be added inside the car and firmly installed on the chassis, the motor chassis or the body and can be operated from the outside of the car.

5.2.7 Connectors are allowed on LED as well as on power cables of the lighting kit.

5.2.8.1 If SP 06, wires connecting LEDs to the central unit can be glued to the body.

5.2.8.2 If SP16, wires connecting LEDs to the connector to the central unit can be glued to the body.

5.3 The Lighting Kit must be switched on at all times during the night stint.

5.4 A lighting kit having all installed LEDs working and remaining lit for 5 seconds after power removal is defined "Operational"

5.5 A lighting kit is "Operational-derated" if all LEDs remain lit for 5 seconds after the main power removal and, at the same time, at least either condition A or B is satisfied:

Condition A) At the front: 1 working led on both right and left side. At the rear: 1 working led.

Condition B) At the front: 1 working led. At the rear: 2 working leds.

5.6.1 The lighting Kit must be "Operational" during scrutinizing to be accepted for racing.

5.6.2 A car is allowed to race during the night stints without needing a repair as long as the Lighting kit is at least Operational-derated. If this minimum condition is not satisfied the Kit must be repaired.

5.6.3 At the end of the night stints, the lighting kit can be switched off or left on, however it must be in the car at all times and Operationally connected. No wiring cut.

6. Changes to the body of the car. All models

6.1 The body of the car can be drilled to install the LEDs of the lighting kit, which will replace the corresponding parts representing the lights on the model..

6.2 Mount posts, can be reinforced using a plastic tube.

6.3 All the Slot.it aftermarket parts ("tear proof" kits) for each model can be used.



Model	Tear proof	Model	Tear proof
Porsche 956 C	CS02P	Porsche 956 KH	CS02P
Porsche 962 C	CS02P	Jaguar XJR12	CS07P
Sauber C9 Mercedes	CS05P	Mazda 787	CS15P
Jaguar XJR9	CS07P	Porsche 962 KH	CS02P
Lancia LC2	CS08P	Toyota 88C	To be defined

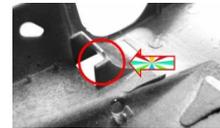
6.4 Rear wing attachments can be reinforced with glue or tape, provided the body shape is not substantially altered. Any reinforcements should not affect the upper part of the wing.

6.5 small detail parts like mirrors, wipers, blinkers, number and side lights, additional rear lights, hauling hooks and battery switches can be omitted as long as the minimum weight is within the limits of the specific model.

6.5.1 Porsche 956, 962

6.5.1.1 (All types) must be fitted with the new cockpit code CH43

6.5.1.2 (Type 956) It is allowed to modify the body to avoid collision with the pinion.



6.5.2 Sauber C9

6.5.2.1 if the suspension is used, the plastic parts which interfere with the suspension can be removed. The rear wing and its support cannot be changed.



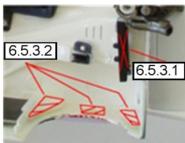
6.5.2.2 removal of the old fixing tabs used to attach the exhaust to the body. See photo.

6.5.2.3 no pre-angle winder bodies are allowed (exhausts must be present at all times)

6.5.2.4 the vertical fins of the parts reproducing the rear brake air intakes can be trimmed, in order to avoid any interference with the rear tyres. See photo.

6.5.3 Jaguar XJR09/XJR12

6.5.3.1 (All types) It is allowed to remove the interference with the suspension.



6.5.3.2 (All types) Removal of the rear wheel covers and (XJR9 only) removal of the corresponding interlock plastic receptacles on the body. See photo.

6.5.3.3 the front photo etched lip in the XJR12 can be removed

6.5.3.4 (all types) Removal of the part attached to the main body to avoid collision with the crown.



6.5.4 Lancia

6.5.4.1 The Le Mans number lights can be omitted if the min body weight limit is respected.

6.5.5 Mazda 787



6.5.5.1 It is allowed to remove the rear frame and forward hook .

7. Spacers and washers	
7.1 Spacers and washers may be used between the axle support and the front wheel hub and between the stopper and the motor chassis central support. Washers may be used under the screw's head between the motor chassis and the chassis .	
Free	 PA 47

8. Mounting Screws		
Slot it or free metallic		
 CH28	 METRIC SCREWS CH51, CH52, CH53, CH54	Free type metallic
8.1 As many screws as in the off the shelf cars must be used.		
8.2 Can be replaced but must be no longer than 11.5mm. Suspension screws, cannot be replaced.		
8.3 The body and motor chassis screws can be left partially unscrewed		

9. Ballast
9.1 No ballast of any kind is allowed

10. Pick-up:	
Slot.it clip type CH26 o screw type CH10 only are permitted	
 CH26	 CH10
10.1. It is allowed to thin the blade.	
10.2 It is allowed to bevel the CH26 forward end of the blade to make it similar to CH10.	

11. Braids and eyelets			
Slot it or free type			
 SP05- SP19	 SP14 -SP18	 SP 04	Free
11.1 Braids must be attached to the pickup through the brass eyelet like in the off the shelf cars. The eyelet can be inserted either in front or at the rear of the braids.			
11.2 Braids must not be glued nor soldered to the eyelets.			

12. Magnets:
No magnets are allowed except for motor and magnetic suspension.

13. Motor and pinion	
MN08C Boxer/2 	PS12 
<p>13.1 The Motor will be the Slot.it Boxer closed can type MN08C and handed out by the organization, with the PS12 brass pinion Z12 6.5 mm.</p>	
<p>13.2 Slot it will hand out two motors directly to the Teams at the time of the Race.</p> <p>13.2.1 The two motors will be assigned by draw. The first motor is for installation. The second is the spare and will be handed out upon request just before the motor replacement</p>	
<p>13.3 Power characteristics of all motors will be made available to all Teams.</p> <p>12.3.1 Any manoeuvre to increase the performance of the motor is forbidden, including but not limited to running-in and using performance enhancement liquids.</p>	
<p>13.4 The motor cannot be glued to the motor chassis nor secured with tape to the chassis</p> <p>13.4.1 Washers are allowed with the motor mounting screws. Screws can be glued.</p> <p>13.4.2 The motor must be assembled so that the central hole on the screw's side is lying above the line joining the other two threaded holes for the screws.</p>	

14. Power Cables	
Slot it or free type	
SP0 	free
<p>14.1. Being the power cables for carrying electric power, they cannot be used to change the free riding height of the front axle or of the body.</p>	

15. Axles	
Any Slot.it type	
<p>15.1. Front axle may be the independent front wheels system PA39, in which case one wheel must be secured by an M2 grub screw and the other must be retained through the brass eyelets (SP17)</p>	
 <p>PA01, PA01-50, PA01-50H PA01-55H, PA01-48, PA01-45</p>	
 <p>PA39 Independent front wheels axle</p>	 <p>SP17 Brass eyelets for independent front wheels axle</p>

16. Wheels:				
Slot.it type				
16.1 Front wheels: any of the PA17/PA24 (PI, Al, Mg) .				
PA17-PI / PA24-PI 	PA17-Als / PA24-Als 	PA17-Mg / PA24-Mg 		
16.2 Rear wheels: PA17/PA24-Al o PA17-Mg.				
PA17-Als / PA24-Als 		PA17-Mg / PA24-Mg 		
16.3 Wheels cannot be glued to their axle. The surface of contact between wheels and tires must be clean of any coating.				
16.4 Wheel covers are mandatory, and must be of 'Gr.C' type: PA21/30/31/34/44.				
PA21 	PA 30 	PA 31 	PA 34 	PA 44 
16.4.1 The white Venturi lid can be omitted from BBS wheel insert PA21.				

17. Crowns:					
Slot.it type					
17.1 Only the AW short hub GA type crowns are permitted.					
17.1.1 Plastic Crowns GA1627-PL GA1628-PL GA1629-PL are permitted as long as available on the shelves by September 20 th 2010.					
GA26 	GA27 	GA28 	GA29 	GA30 	GA32 
17.2 Crowns cannot be glued to their axles.					

18. Tyres

18.1 Slot it will hand out 1 set of tires directly to each Team.

18.1.1 Slot it will mark the tires allowing their identification from the hand out to the end of the Parc Fermé.

18.1.2 Slot it will hand out the appropriate number of tire sets as a replacement to cover the entire race.

18.1.3 The rear tire type will be published at least 1 month before the race event.

<p>Germignaga (I) Tire Type: PT27- F22</p> 	<p>Igualada (E) Tire Type: PT27- F22</p> 	<p>Bruxelles (B) Tire Type: PT27- F22</p>  (to be confirmed)
<p>18.2 Rear tyres will be assembled under a scrutiner's surveillance during the pre-race verifications and lubrication can be done uniquely with alcohol or other liquid provided by the organizers.</p> <p>18.2.1 Tires can be mounted on wheels with the Slot it identification either on the inside or the outside of the car.</p>		
<p>18.3 Rear Tyres cannot be glued to the rim. No other substance can be used on tyres except for those provided by the organizers.</p>		
<p>18.4 Front tyres, visibly marked Slot.it, must cover the wheel entirely, must not have a diameter smaller than 16.7 mm, and such diameter must be constant across the wheel's section..</p>		
<p>18.5 The PT19 type is allowed as a front tire with a minimum diameter of 16,7 mm, constant across the wheel's section.</p>		 PT19

19. Throttles:

Any type, also self-built.

19.1 The Throttle must not feature an output voltage higher than the max supply voltage or lower than the ground of the supply

19.2 The Hand Throttle can be replaced during the race.

20. Power supply – Hand Throttle connection

20.1 Track voltage will be approx in the range 11.5V-13.0V stabilized DC

20.2 For reference only, the table below lists some of the racetracks features

	Germignaga (I)	Igualada (E)	Brussels (B)
Track Type	Ninco	Ninco	Scalextric Sport
Number of lanes	40	32	24
Hand Throttle connection socket	“ANSI” BTicino Magic “ANSI”	4 mm Dia (DS Type)	CEE 7/7 (Shuko)

Racetrack Table

21. Spares:

Each team will hand to the Race Organization the spare parts within the limits stated by the Spare Parts Matrix. They will be kept by the organization in a box dedicated to the specific Team and made available upon request. By the Team

Spare Parts Matrix

Pickup	3	Chassis (All parts must be present and can be already assembled and glued if multi pieces chassis)	1
Braids, Eyelets	No limit	Motor chassis with bearings	2
Power cables	No limit	Lighting kit	1
Crowns	4	Magnetic suspension set	2
Rear wheels (couples)	6	Spring suspension set	2
Pinion Z12 6.5mm	3	Grub screws and Screws	No limit
Wheel covers (couples)	4	Spacers and washers	No limit
Front wheels(couples)	4	LEDS	No limit
Windshield	4	Rear wings	4
Axles	4	Front tires (couples)	2
Stoppers	2		

21.1 Slot it will add to each Team's box the spare Motor and the rear tires.

21.2 Should the spare chassis break, an extra chassis will be allowed after technical scrutinizing by the Race Direction.

21.3 Spares can be sub assembled but without exceeding the limits of the single part allowance.

22. Repair and Replacement

22.1 The chassis that fails to pass the scrutinizing cannot be repaired. It must be replaced with a new chassis consistent with the car model and that will be handed out by Slot it.

22.2 The body cannot be replaced but only repaired.

22.3 The rear wing must be either repaired or replaced when broken or lost. Once all spares have been used, it must be repaired.

22.4 The windshield must be either repaired or replaced when broken or lost. Once all spares have been used, it must be repaired.

22.5 Front light glasses, side windows part smaller than 5x5x5 mm may not be repaired or replaced.

22.6.1 Should the body break in pieces during the race, all of the broken and loose parts for which the max dimension exceeds 10mm. length size, must be put back in place as close as possible to their original position by glue or tape.

22.6.2 The repair is not due if, after checking by the Race Director, the body minimum weight is maintained. If the broken part is lost, the Race Director has the right to enforce the repair if he so deems necessary.

23. Penalties

23.1. The Race Director is the unique entity fully empowered to impose the due penalties for the infringement of this Regulation during all phase of the race since the opening of the Event

23.2. Slot It reserve the right of imposing penalties to drivers and or Teams in case of infringement of the Technical Rules and/or the Race regulations. Penalties will be imposed at European Championship Level only.

List of Revisions	State	Date	Change
2010.1	Obsolete	22/3/2010	First Release
2010.2	Obsolete	12/5/ 2010	4.4.1 Text modified.
			5.2.5 New numbering. 5.2.6 New numbering.
			5.3 New numbering, modified text.
			5.4 New numbering , modified text.
			5.5 New text.
			5.6.1 New text. 5.6.2 Modified text. 5.6.3 new numbering.
			6.1 New numbering.
			13.2.1 Modified text.
			16.4 Added text and picture.
			17.1 Modified text, deleted pictures.
			18.1.3 Text updated.
			Body weight table. Modified text of the rightmost column

2010.3	Active	31/08/2010	2.4 Modified paragraph to clarify also the spare chassis has to bear the team name.
			3.1 Paragraph modified to clarify the one stopper only position
			3.1.1 Added paragraph to clarify the position of the second stopper.
			3.2 paragraph modified to specify max 2 bushing. 3.2.1 added paragraph to specify no glued bushing and to clarify the free rotation of bushing inside their housing.
			5.1 Paragraph modified to clarify where the light kit can be secured
			5.2.5 Paragraph modified to clarify light kit cable replacement.
			5.2.6 Modified paragraph to allow the light kit switch on the body also and firmly secured.
			5.2.7 Added paragraph allowing connectors on light kit cables
			5.2.8.1 and 5.2.8.2 paragraphs added about Light Kit wires gluing.
			6.5 Paragraph modified for clarification about omitted parts.
			6.5.4 and 6.5.4.1 Paragraphs added on Lancia omitted parts
			6.5.5 and 6.5.5.1 Paragraphs added on Mazda 787
			13.4.1 Modified paragraph to allow screw gluing
			13.4.2 Added paragraph on motor installation position
			16.3 Modified paragraph to clarify the tire to wheel surface cleanness.
			18.2.1 Added paragraph to clarify the tire on wheel mounting position.
21 (Spare Parts Matrix) Added axles, front tires as spares and stoppers. Clarified the number of spares for rear wheels and front wheels and covers.			
21.3 Added paragraph on subassembly of spares.			
22.6.1 and 22.6.2 Added paragraphs on body repair			