

**ESTONIAN CHAMPIONSHIP/ BaTCC 2010
SUPER 1600 TECHNICAL REGULATIONS**

Confirmed by:

Estonian ASU Racing
Committee

1. General

These Technical Regulations are valid from 01 01 2010. The Regulations and their amendments for the class that were valid up to 01 01 2010 are voided.

1.1 The Super 1600 category shall be open for all cars that have been or are in serial production with maximum cylinder capacity of 1600 cm³ and one driving axle.

1.2 The safety requirements must comply with FIA Appendix J, art. 253 "Safety Equipment", unless if specified otherwise in respective sections of this document.

1.3 Fuel. Only commercially marketed gasoline may be used.

1.4 The competitors shall be responsible for the durability and fail-safety of all modifications.

2. Body

2.1 General. Only passenger car bodies are permitted. Appearance of the cars must be proper.

Visible traces of rust must be removed and the car body repaired without weakening of the supporting structures and changing of the body design.

Lateral profile of the car body at the bonnet, windshield, roof, rear window, and boot lid must keep its original appearance after removal of spoilers.

Reinforcement of car bodies is allowed. Supporting body structures – propeller shaft tunnel, side panels, door pillars, roof, car floor and a/b/c-pillar – may not be made lighter, with the exception of cases provided for in section 2.2.

Decorative body parts, protectors, name plates, etc. may be removed.

2.2 Car floor. Modification of the car floor between the rear edges of the front wheels and the front edges of the rear wheels is allowed only for modification of the transmission, suspension or exhaust muffler, and the floor may not become weaker as a result of such modifications.

Covering of the floor is allowed.

Aerodynamic elements under the floor are allowed.

2.3 Windows. The windshield must be of original shape and consist of triplex glass. The rest of the windows may be replaced by transparent polycarbonate (minimum thickness 3 mm) or other transparent material (minimum thickness 2 mm) that does not brake when folded. The driver must have certificate for this material. The cars, which have technical passport since 01.01.2009, must use only all original windows. **Is compulsory use clear protection film on the original windows of drivers and co-drivers door.**

Tinting of the car windows in any way is prohibited, with the exception of the upper edge of the windshield (width: 150 mm), where advertising stickers or the like may be located.

2.4 Body parts, spoilers, bumpers, fender extensions, fenders, mirrors.

When replacing spoilers and fenders, it is necessary to make sure that these do not touch the ground when both tyres on one side of the car are flat, with the exception of side curtains made of soft and flexible material. When viewed from the front, the

spoilers must remain in the car body's projection.

The width of the car body may not exceed the original width of the body by more than 200 mm. The length of the car body may not exceed the original length of the body by more than 400 mm (including bumpers). Original bumpers may be removed.

The front spoiler may not project further than the upper edge of the front wheel arch (including fender extension).

The front spoiler may not project further ahead than 200 mm from the original body (original length), and the rear spoiler may not project further back than 200 mm from the original body (original length).

When viewed from above, any of the wheel assemblies must not be visible from under the fender (fender extension).

The cars must have an inside rear view mirror and external rear view mirrors on both sides, the minimum surface of which shall be 90 cm².

2.5 Bonnet and boot lid. Hinges and locking elements are free, but the original locking mechanisms must be removed. There must be four fixation points per bonnet or lid (2 hinges and 2 locking mechanisms, for example).

The bonnet and boot lid may be made lighter in weight, for example, by removal of reinforcement ribs, but they must remain sufficiently rigid in order to avoid deflection at high speeds. The bonnet and boot lid may be made of some other material.

Removal of gaskets is permitted.

2.6 Doors. Doors must remain safely closed during the race (mechanical fixation). Rear doors may be made lighter in weight by removal of inner reinforcement structures, door locks and window regulators. Rear doors may also be welded shut.

The driver's door must be original and upholstered; the upholstery may be original or replaced with steel or aluminium sheet (minimum thickness 1 mm) or kevlar panel (minimum thickness 2 mm) or other flame resistant material (minimum thickness 2,5mm). The locking mechanism of the driver's door must be original and allow opening and closing of the door from both inside and outside.

The right-side front door may be made lighter in weight by removal of the window regulator mechanism, drilling of holes into the reinforcement structures, or removal of the reinforcement structures. The locking mechanism of the right-side front door must allow opening and closing of the door from both inside and outside. Other materials may be used in doors, with the exception of the driver's door.

Door gaskets may be removed.

3. Cockpit

3.1 General. All mats, upholstery (except that of the driver's door), passenger seats and their fastening elements may be removed from the cockpit. All unnecessary components fastened by bolts and nuts may also be removed from the cockpit.

Dangerous sharp edges or projecting elements are not allowed in the cockpit.

3.2 Driver's seat. The driver's seat and its fixation elements must comply with FIA Appendix J.

3.3 Safety cage. According to FIA Appendix J.

Where the occupants' crash helmets could come into contact with safety cage, must be the protective padding, comply with the FIA 8857-2001 standard, type A (see technical list no.23 „Roll Cage Padding homologated by the FIA“). The padding must be secured so that it does not spin around the barrel.

From 01.01.2009 it is obligatory minimum structure as follows:

All materials, settings and documentation requirements according to FIA VM appendix J, article 253 p.8 requirements. Specified drawings numbers are given according to FIA document 02.04.2007 version. (www.fia.com). Drawings and numbers are also given in Appendix 1.

1. basic structure: according to FIA VM Appendix J article 253 c. 8.3.1 (drawings 253-1, 253-2, 253-3)

2. diagonal stabilisers: at least 2 diagonal stabilisers are obligatory (drawing 253-4 and 253-5 together or 253-7). Settings according to c. 8.3.2.1.1 directions.

3. side protection structure: "X" shaped on both sides (drawing 253-9). Settings according to 8.3.2.1.2 directions. If the car already has side protection structures that are set according to drawings 253-10 or 253-11, then these are not necessary to change to be suitable to 253-9.

4. roof reinforcement: according to c 8.3.2.1.3 directions (drawings 253-12; 253-13 or 253-14). One diagonal version according to drawing 253-12 is also allowed if its first part is fixed on the driver's side.

3.4 Safety belts. According to FIA Appendix J.

From 01.01.2009 it is obligatory: 5.-6 belt fastening may be on car floor with reinforcement plates according to FIA instructions or with fastening to separate pipe, that is not connected to seat brackets. Measures and settings of this pipe alike to seat fixing pipes requirements.

3.5 Extinguisher. According to FIA Appendix J.

3.6 Safety door net. Safety driver door net is compulsory. Net must meet the following requirements:

- Net should be made of appr. 19 mm (3/4) wide fire-resistant cloth ties. Net windows are appr. 25x25 mm and max 60x60 mm. The net ties should be sewed together at crossing places.

Net fixing:

The net should be fixed on driver door side safety bar or over driver door window safety bar in easy fix / remove way.

In the case of car overturn the safety net should not be released by itself, but it should be easy removed by hand. For this case a colored handle should be fixed with an unlocking arrow in the car exterior.

Unlocking with a press of a button mechanism is also allowed. The button location should be seen from the car exterior with an inscription "Press".

Only winding fixing is allowed for net fixing to a bar. No changes of the safety bars are allowed.

3.7 Dashboard meters and switches. The dashboard and its console may be removed.

Meters and switches are free; unnecessary meters, light signals and switches may be removed. The cars, which have technical passport since 01.01.2009, must have the dashboard compulsory by Appendix J article 255 c.5.7.3.3 and the Drawing 255-7.

3.8 Clutch pedal, brake pedal, accelerator pedal and gear lever are free.

3.9 Steering wheel, steering column. Steering wheel and steering column are free. Steering column angle may be changed so that the driver can assume a comfortable position.

3.10 Cockpit heating system. Cockpit heating system may be removed. Nevertheless, transparency of the windshield must be ensured at all times.

3.11 Wires and hoses passing through the cockpit must be protected from possible fires, leaks or damage.

Fuel lines and connectors may be changed for aviation type lines. The installation of the fuel lines is free provided that the prescriptions of the article 253.3 of FIA

Appendix "J" are respected. If not using aviation type fuel lines and connectors the fuel lines passing through the cockpit must be made of metal and be attached to the body and within the limits of the cockpit, there shall be no connectors in the fuel lines.

3.12 Cockpit floor, bulkheads. The bulkheads between the engine and the cockpit and the boot and the cockpit must be fireproof and tight. All modifications of the bulkhead between the engine and the cockpit shall be made using the original material, without affecting the durability of the cockpit. The bulkhead between the engine and the cockpit may not be moved from its original location.

4. Engine

4.1 General. Maximum cylinder capacity of the engine shall be 1640 cm³.

It is allowed only petrolburning (Otto) engine.

It is allowed to use any serially produced engine that the body model has been equipped with in serial production by car manufacturer (also in case, if the manufacturers of body and engine is different) , also the other engine of the same car manufacturer.

Only serial production cylinder blocks and cylinder heads of the same make (manufacturer) shall be used. Upon calculation of the cylinder capacity, the value of _ shall be 3.1416.

The engine must be located in the original engine compartment.

4.2 Cylinder block and cylinder head. The cylinder block and cylinder head of the respective car manufacturer must be visually recognisable, all modifications and other engine parts are free.

4.3 Intake system. Use of any vertical and horizontal carburettors and fuel injection systems is allowed. Fuel injection control system is free.

4.4 Supercharging. Any supercharging (turbo, compressor) is prohibited.

4.5 Lubrication system. Crankcase ventilation oil sump must be properly fastened in the engine compartment; the volume of the sump must be at least 2 litres. Use of the so-called dry crankcase system is allowed.

4.6 Engine mounting is free, but there may not be less fixation points than there were initially.

4.7 Exhaust system is free downstream of the cylinder head provided that the prescribed sound levels of levels of 110 dB (A) at 4500 r.p.m. measured in conformity with the FIA noise-measuring method are not exceeded.

5. Fuel system

According to FIA Appendix J. The fuel tank must be original or safety tank comply by Appendix J, article 253.14.

6. Transmission

Transmission is free.

7. Axle mounting

Axle construction and mounting points are free. The axle base may not change by more than 50 mm in comparison with the original axle base.

8. Steering equipment

~~The steering mechanism must be original.~~

~~The steering mechanism, steering wheel and the position of the steering column are free. The tie rod ends and the linkage may be replaced with uni-ball joints. Rubber covers are free.~~

~~The position of the steering column and the steering wheel are free.~~

~~The steering gear case may be relocated.~~

9. Braking system

Dual brake system activated by one pedal is mandatory. All brake systems and their components or similar spare parts may be used.

Hand brake is free. Hand brake may be removed.

10. Wheel rims and tyres

Rim diameter and width, type, manufacturer, and material are free.

Tyres must be intended for racing. Use of common tyres with speed index over 200 km/h (U, H, V, W, Y, Z) is also allowed. Use of restored tyres is prohibited.

11. Electrical system

11.1 Battery. Manufacturer and size are free.

The battery must be firmly fixed. If the battery has been removed from its original location, it must be attached to a new metal holder connected with the car body by two metal latches and covered with a leak resistant cover. The cover is not required in the case of leak proof batteries (gel batteries and dry batteries). The diameter of the latch fixation bolts must be at least 10 mm and the fixation points must be reinforced using a metal plate at least 3 mm thick and having a surface area of at least 20 cm².

11.2 Alternator. The alternator may be removed.

11.3 Starter. The car must have a starter enabling the driver to start the car from the driver's seat, without unbuckling of the safety belts.

11.4 Head lamps. The original head lamps (low beam), 55W each or LED-s of the same luminous intensity, must be retained and must be operational at all times during a meeting.

11.5 Brake lights. The car must have 2 red brake lights, 21 W each (filament lamp), or 2 LED strips of the same luminous intensity. In the case if original brake lights are not being used, the minimum area of a brake light shall be 30 cm². Non-original brake lights must be located in the cockpit, on the rear window, symmetrically with the car's longitudinal axis, and be directed backwards. Original headlights and taillights may remain, but they must be taped (with the exception of rear brake lights).

11.6 Warning lights. The car must have 2 red warning lights, **10 W** each (filament lamp), or 2 LED strips of the same luminous intensity. The minimum area of a warning light shall be 30 cm². The warning lights must be located symmetrically with the car's longitudinal axis and be directed backwards.

Warning lights must be switched on and stay on during the entire race, in accordance with the orders.

The original taillights of the car may be used as warning lights, on the condition that the luminous intensity of the bulbs (LED strip) complies with the requirements provided above.

11.7 Brake lights and warning lights may also be located in the same light case, provided that a double filament lamp of the respective luminous intensity is used, and that the minimum area requirement (30cm²) is met.

11.8 Window wipers and washers. Window wipers must be operational. The car must have electric windshield cleaning system of sufficient capacity. Light wipers/washers and rear window wipers/washers may be removed.

11.9 Ignition system is free.

11.10 Wires, relays, fuses, switches, etc. are free. The general circuit breaker must cut all electrical circuits, battery, alternator, lights, and ignition, and must also stop the engine. It must be a spark-proof model and will be accessible from both inside and

outside of the car. As for the outside, the triggering system must be located at the lower part of the windshield and marked by a red spark in a white-edged blue triangle with a base of at least 12 cm.

12. Weight

The minimum weight of the car *with gasoline (min. 3 liters) and other liquids, including* driver and his full equipment is:

- ~~- engine 1600 cm³ with 2 valves/cylinder: 920 kg~~
- ~~- engine up to 1400 cm³ with more than 2 valves/cylinder: 920 kg~~
- ~~- engine up to 1500 cm³ with more than 2 valves/cylinder: 940 kg~~
- ~~- engine 1600 cm³ with more than 2 valves/ cylinder: 980 kg~~

New version:

- engine 1600 cm³ with 2 valves/cylinder: 960 kg
- engine up to 1400 cm³ with more than 2 valves/cylinder: 960 kg
- engine up to 1500 cm³ with more than 2 valves/cylinder: 980 kg
- engine 1600 cm³ with more than 2 valves/ cylinder: 1020 kg

These minimum weights must be respected at all times during the event.

13. Towing-eye

All cars must be equipped with a rear and front towing-eye. Serie-production towingeye could be changed into new stronger one. Location of the towing-eyes should be clearly marked.

14. Drivers equipment

14.1 In all circuit racing events, FIA 8856-2000 homologated fireproof suits, balaclavas, boots, underwear, socks and gloves must be used.

14.2 The safety helmet must be compliant with one of the following standards approved by the FIA:

FIA 8860-2004;

Snell SA 2000; Snell SA 2005

BS6658-85 type A/FR;

SFI 31.1A; SFI 31.2A;

or be included in the valid list of safety helmets homologated by the FIA (www.fia.com).