

# Estonian national Group Proto technical regulations

Approved by EASU 15.12.2021

## 1. Definition

Cars and all the parts must be either, Gr A and Gr N with expired homologation, or non-homologated series production cars available through normal sale channels. Non-homologated cars must comply with Articles 252 and 253 of FIA Appendix J. All modifications not prescribed here must comply with Gr A regulations of FIA App J (Art 252 and Art 255)

## 2. Weight

Minimum weight according to their cubic capacity and number of valves

	2 valves	more than 2 valves
up to 1000 cm <sup>3</sup>	620 kg	700 kg
1300 cm <sup>3</sup>	700 kg	760 kg
1600 cm <sup>3</sup>	780 kg	850 kg
2000 cm <sup>3</sup>	860 kg	930 kg
2500 cm <sup>3</sup>	940 kg	1030 kg
3000 cm <sup>3</sup>	1020 kg	1110 kg
3500 cm <sup>3</sup>	1130 kg	1200 kg
4000 cm <sup>3</sup>	1210 kg	1280 kg
4500 cm <sup>3</sup>	1300 kg	1370 kg

## 3. Authorized modifications and adjunctions

### 3.1. Engine

**3.1.1.** Engine type and manufacturer are free. Location of the engine in its original compartment is free. Mounting points can be added.

**3.1.2.** Original cubic capacity can be modified by the means of reboring, resleeving or changing the stroke

**3.1.3.** Crankshaft is free

**3.1.4.** Original type and number of the crankshaft's bearings must be retained

**3.1.5.** Cylinder head in the case of 2 valves per cylinder is free. Engines with more than 2 valves per cylinder original cylinder head must be retained. Location and the number of the camshafts must be retained with all the engine types

**3.1.6.** In case of supercharging, the nominal cylinder capacity is multiplied by 1.7 for petrol engines and by 1.5 for diesel engine. The maximum internal diameter of the restrictor is 34 mm.

**3.1.7.** The accelerator linkage is free

**3.1.8.** Exhaust manifold is free, the noise level on the open road must not exceed 103 dB(A)/3500 rpm

**3.1.9.** Lubrication system is free. The fitting of an oil radiator outside the bodywork is only allowed below the horizontal plane passing through the hub in such a way that it does not protrude beyond the general perimeter of the car seen from above. Oil radiator cannot be fitted inside cockpit.

**3.1.10.** Camshafts and valve mechanism are free in the case of:

- number and location must be retained

- timing is free

- type of the valve springs and their operating principles must be retained

**3.1.11.** Cooling: fan, radiator and the water pump are free, but cannot be mounted inside of the cockpit

**3.1.12.** Ignition is free

**3.1.13.** Engine cubic capacity is limited to 4000 ccm for normally aspirated engines and to 2500 ccm for supercharged engines

### **3.2. Transmission**

#### **3.2.1.** Clutch is free in the case of:

- clutch pedal is operated with drivers foot, if the alternative system is not been homologated (homologation must be filed)
- clutch of the automatic gearbox must be homologated (homologation must be filed)

#### **3.2.2.** Gearbox is free with following restrictions:

- only mechanical gearbox operated by driver mechanically is allowed
- gearbox must be include reverse gear
- to change the location of the gear level modications to the bodywork is allowed

#### **3.2.3.** Gearbox, transfer case and final drive are free. Differentials are compulsory

#### **3.2.4.** Half-shafts are free

### **3.3. Suspension**

#### **3.3.1.** Support arms and wishbones are free with following restrictions:

- the suspension mounting points to the bodyshell or chassis may be modified by using „Uniball“ joint
- can be replaced with originals according to specification

#### **3.3.2.** Suspension mounting points are free

#### **3.3.3.** Reinforcement bars may be fitted, inevitable changes to the bodyshell are allowed

#### **3.3.4.** Additional springs can be added if the type and the principle of the main spring is maintained

#### **3.3.5.** Active suspension is forbbiden. Suspension and shock absorbers adjustable during the driving are forbbiden. Generally shock absorbers are free.

#### **3.3.6.** Anti-roll bars are free, even if they are part of the suspension

#### **3.3.7.** Steering system is free, power steering can be added

#### **3.3.8.** Four wheel steering, if not homologated, is prohibited (homologation must be filed)

#### **3.3.9.** Wheels and tyres must comply with Gr A regulations

### **3.4. Bodywork, bodyshell, chassis**

**3.4.1.** Chassis must be made of steel. Any lightenings or changes, which are not specifically allowed, are prohibited. Strengthening is allowed even if the added material is not same as the original. All the hatches and doors must be opened from outside. Front doors must be able to open from inside and outside.

**3.4.2.** Windows can be made from plastic, except windscreen. Plastic windows must be made from unbreakable material (bendable without breaking) with minimal thickness 3,0 mm. Plastic side windows must be mounted to the bodywork by means of glueing and/or riveting, max diameter of rivets 3,2 mm. Although plastic windows can be mounted into original seals. In this case windows must be fixed from bottom to the door frame wit two mounting points. Cars without window frame original glass windows must be retained.

**3.4.3.** Bonnet, boot lid, rear doors and mudguards (in the case of bolted by manufacturer) can be made of composite polymer (thickness 1,5-2,5 mm) reinforced with fibre, or aluminium (thickness 0,5-1,5 mm). Additional two ventilating holes can be made to the bonnet, with maximum area of 500 cm<sup>2</sup>. Area is measured on the bonnets reference plane, not depending of shape or existence of the air intakes, ribs etc. These holes must be covered with metal net or ribs, which cannot be higher than 35 mm measured from bonnets plane. Front doors must retained original shape and material. Front door pillars can be replaced with homologated honeycomb material.

**3.4.4.** Homologated air intakes for purpose of ventilating the cockpit can be fitted into roof. Air intakes of the other manufacturers can be used.

**3.4.5.** It is permitted to remove the trim from the doors together with their side protection bars in order to install a side protection panel which is made from composite material with thickness of 1,0 mm, sheet metal with thickness of 0,5 mm or any other non-flammable material with thickness of

2,0 mm. This also applies to the area beneath rear windows of 2-door cars. Material should be fitted with rivets or screws. Glove compartment can be removed.

**3.4.6.** Dashboard must originate from same car manufacturer and in original shape. It is permitted to make necessary changes to the dashboard for fitting additional gauges and controls.

**3.4.7.** Air ducts beneath wheel axles are free. Spoilers can be removed. Non-homologated spoilers can be fitted in the case of:

- spoiler must not protrude beyond of contour of the car, when seen in frontal and vertical projection

- spoiler with its mounting points must not extend beyond car's contour horizontally and vertically, when seen in side projection

**3.4.8.** Fenders can be processed. Widening fenders is allowed, material is free, but car's overall width cannot be wider more than 14 cm. Cutting the old fender beneath of the widened fender is allowed. The wheel arches may be modified in order to house the wheels authorised.

**3.4.9.** Bumpers must be used

**3.4.10.** Front grill can be modified, but not removed

**3.4.11.** The spare wheel housing can be removed

**3.4.12.** In the case of fuel tank is mounted in cockpit a leakproof and flameproof cover between the tank and the occupants is mandatory

**3.4.13.** If the original seat attachments or supports are not used, seats must be fixed to the two square tubes (min. 35x35x2.5mm) or circle tubes (min 35mmx2.5), which are welded into cross member between bodyshell lower rail and central tunnel wall. All anchorage points must be reinforced with end plates (area 40 cm<sup>2</sup>, thickness 3 mm). Cross member tubes and end plates must be from same material as bodyshell. Length of the end plate one side must be at least 60 mm. It is highly recommendable to fix seats in conformity with FIA drawing 253-65B. Seat's side anchorage points thickness must be at least 3 mm in the case of steel or 5 mm in the case of light alloy.

**3.4.14.** No kind of ballast is authorised

### **3.5. Brakes**

**3.5.1.** Anti-lock brake systems are prohibited

**3.5.2.** Hand brake is mandatory

**3.5.3.** If original braking system is not used, at least dual circuit brakes are compulsory

**3.5.4.** Otherwise the braking system is free

### **3.6. Other equipment**

**3.6.1.** Material and positioning of wires and lines is allowed to change (it concerns windscreen washing, air, cooling, fuel, brake fluid lines, suspension system and electrical wiring).

Lines containing fuel or hydraulic fluid may pass through the cockpit, but without any connectors inside except necessary connections for hand brake, fuel pump or fuel tank, which can only be done by means of cone or metal thread fittings sealed with metal gasket washer. Fuel line connections must be protected against leaking. Hot fluid lines cannot pass through cockpit, except these are fitted by manufacturer. In this case these lines must be effectively protected. Non-metallic fluid lines inside cockpit are prohibited, except fuel and brake fluid lines from teflon with metallic shielding. Lines for windscreen washer fluid can be made from plastic. All the lines must be fixed to the bodyshell and protected against friction. Inside the cockpit, the passage of any lines between the side members of the bodyshell and the safety cage is forbidden.

**3.6.2.** The heating unit may be removed completely in the case of condensation of the windscreen and side windows is prevented

**3.6.3.** Original fuel tank can be replaced with FIA FT3 1999; FT3.5; FT5 and also SFI safety fuel tank, with following information:

- name of the manufacturer

- model and the series numbers

- the date of the end of validity

**3.6.4.** Safety fuel tanks may be used another two years after the date of the end of validity.

**3.6.5.** If the FIA standardised filler neck is used, it must be fitted to external surface of the car. The fuel tank air vent(s) must be equipped with non return and closing valves.

**3.6.6.** Tanks for windscreen washer fluid, hydraulic fluid and cooling fluid are free

### **3.7. Special regulations**

**3.7.1.** Movable aerodynamic devices are prohibited, if fully homologated system are not in use

**3.7.2.** It is prohibited to use non-homologated ceramic details, except clutch coating

**3.7.3.** The use of titanium alloy is prohibited

### **3.8. Safety regulations**

**3.8.1.** The safety prescriptions as specified in Article 253 of Appendix J are applicable

**3.8.2.** Fire extinguishing system is compulsory, according to FIA Technical Lists no 16 or no 52 and instructions of the manufacturer.

**3.8.3.** Drivers safety equipment according FIA Appendix L, Art III

**3.8.4.** Seats must be with side protections and must be homologated at least by the FIA standard 8855-1999

**3.8.5.** It is allowed to use other safety cage paddings, which are made from non-flammable material with minimum thickness 15 mm.