

# NEZ GT TECHNICAL REGULATIONS 2009- 2010

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Confirmed by:

FIA NEZ Racing Commission

## 1. **General**

1.1. These Technical Regulations and their amendments for the class that were valid up to 01.01.2009 are voided.

## 2. **Allowed cars**

2.1. The car must be a closed automobile or automobile with hardtop as:

2.1.1. car homologated by FIA or ASN`s in groups GT2,GT3, SP, A, N, CN;

2.1.2. car with FIA or national technical card

2.2. Cars are divided into two groups:

- GT,
- GT3.

2.3. Cars according to FIA GT 1 and FIA GT are prohibited.

2.4. GT3 cars must satisfy 100% FIA rules and valid appendixes for FIA officials GT3 series.

2.5. It is always the obligation of the competitor to prove to authorities at the competitions that the car corresponds to technical regulations.

## Technical rules for cars in GT-class.

## 3. **Weight**

3.1. The minimum weight of the car, including driver and his full equipment will be calculated according to Appendix 1. 765 kg is the minimum weight in all cases.

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

3.3. When the car is control-weighed, it is not allowed to add fluid in any container.

3.4. Minimum weight can be achieved with extra loads, which may be attached to the body of the car at any places. Total maximum weight of these loads is 75 kg.

3.5. The loads should be massive and fastened with threaded joints 8mm (min. strength class 10.9) and have a strengthening plate at each joint unit and they should be prepared for sealing.

#### **4. Braking system**

- 4.1. The drum brakes are prohibited. Drum brakes must be replaced by disc brakes.
- 4.2. No more than one brake disc is permitted for each wheel.
- 4.3. Carbon brake disks are allowed only if they are homologated on GT2 cars or are used in the original version of this model for legal road traffic.
- The extra weight for using carbon brakes is 40 kg. If is necessary, than will the NEZ GT Commission changed this extra weight in Appendix`s before the next race.
- In other cases the brake discs must be made of ferrous metallic material.
- 4.4 The locations of the brake lines are free, provided that the prescriptions of article 253.3 of FIA Appendix J are assumed.
- 4.5 The ABS brakes are not allowed.
- 4.6 Otherwise the braking system is free.

#### **5. Engine**

Use of laughing gas (N<sub>2</sub>O) and other artificial oxidants is forbidden.

The engine must be installed in its original place.

- 5.1. The maximum allowed calculated displacement is 10 000 cm<sup>3</sup>. Calculated displacement will be calculated according to Appendix 1.

##### 5.2. Restrictors in air intake system:

- Dodge Viper- 35,0mm
- Corvette C5R- 30,8mm
- All other homologated GT2 cars by FIA table (Appendix J, Article 257)

5.3. The engine block, machining completed, must be this of a car that's production of at least 200 units in 12 months has been proven to FIA.

5.4. The engine produced for motorbike is forbidden.

5.5. Otherwise the engine is free.

#### **6. Exhaust system**

6.1 All cars must be fitted with an exhaust system, the outlet pipe/s of which must be directed either rearwards or sideways.

6.2 If directed rearwards, outlet pipe orifices must be between (100 ... 450) mm above the ground and they must not protrude by more than 50 mm beyond the rearmost portion of the car.

6.3 If directed sideways, outlet pipe orifices must be located after of a vertical plane passing through the midpoint of the wheelbase.

6.4 In any case, outlet pipe orifices must neither project in any way beyond the maximum width of the bodywork, nor terminate at a point more than 50 mm outside the adjacent bodywork.

- 6.5. All exhaust pipes must be adequately protected in order to prevent injuries.
- 6.6 The exhaust system must be a complete and contiguous unit and exhaust gas may exit only at the end of the system.
- 6.7 No component of the chassis may be used to evacuate exhaust gases.

## **7. Noise limits**

Current maximum noise limits on competition sites must be fulfilled.

## **8. Transmission**

8.1 Allowed is gearbox with max. 6 forward gears. Reverse gear in working order is compulsory.

8.2.1 Drive layout is free. Torque split can be freely changed.

8.2.2 It is allowed to make necessary body changes in order to make room for the transmission. Safety and proper fastening have to be assured

8.2.3 Otherwise the transmission is free.

## **9. Steering**

9.1.1 Four-wheel steering is prohibited

9.1.2 Otherwise the steering system is free.

## **10. Suspension**

10.1 Suspension system is free. It is also allowed to change and add suspension support points.

10.2 Ground clearance. No sprung part of the car (chassis/structure, bodywork, mechanical parts, etc.) may be lower than the flat floor. Minimum ground clearance is 40 mm.

## **11. Wheels and Tires**

11.1 The maximum width of the complete wheel may not exceed:

11.1.1. Two wheel driven cars -16 inches (406,4 mm)

11.1.2. Four wheel driven cars -12 inches (304,8 mm)

11.2. All wheels that are fitted with center-lock wheel retention system must conform to the following:

11.2.1. The center-lock spindle thread must be left and right hand as appropriate according to the car side.

- 11.2.2. All center-lock spindles must be fitted with a safety clip/spring, which must effectively prevent the wheel nut from coming loose at any time. This safety clip/spring must:
  - 11.2.2.1. be in place on the wheel nut at all times while a car is on the race track
  - 11.2.2.2. be replaced/reset after each wheel change
  - 11.2.2.3. painted red or orange
- 11.3. Otherwise the wheels and tyres are free.
- 11.4. It is allowed to install widening devices between the wheels and the hub, but the method of centralization and fixing must stay similar of original.

## **12. Interior**

- 12.1. The front passenger's seat and the complete rear seats must be removed. The driver seat must placed wholly on the left or right side of the central line.
- 12.2. The door trim and interior trim may be standard or made of
  - 12.2.1. sheet metal with a minimum thickness of 0,5 mm
  - 12.2.2. carbon fiber with a minimum thickness of 1,0 mm
  - 12.2.3. another solid, noncombustible material with a minimum thickness of 2,0 mm
- 12.3. Filling of driver' and other doors' inner space with energy absorbing material is recommended. For this purpose installation of fire-resistant plates is recommended in driver's side between the door and roll cage. No other parts must be between the plate and the seat.
- 12.4. Air-bag system must be removed.
- 12.5. The spare wheel must be removed.
- 12.6. The driver's compartment must be separated from any sources of fire.
- 12.7. The car must be equipped with appropriate 5- or 6-point safety belts.
- 12.8. Unnecessary combustible objects must be removed from the driver's compartment.
- 12.9. During the time of driving, there must be no loose objects in the driver's compartment
- 12.10. Driver's seat
  - 12.10.1. A FIA homologated racing seat with 5 passages for safety belt is compulsory. In the cases of space problems and difficulties to install the driver's seat, can "single seaters type" seats, not approved by FIA, be accepted. In this case the HANS is compulsory (FIA 8858-2002 or better).
  - 12.10.2. The seat must be fitted with at least four threaded joints M8 10.9.

- 12.10.3. A seat attachment should comply with art. 253.16 of FIA Appendix J. The attachment with support tubes is allowed fixed also with welding method (by FIA rules up to 31.12.2008).
- 12.10.4. The original seat mountings must be removed
- 12.11. Safety harnesses
  - 12.11.1. Only FIA homologated safety harnesses are eligible.
  - 12.11.2. They should comply with Art.253.6 of FIA Appendix J with the minimum of five anchorage points.
  - 12.11.3. Shoulder straps must be at least 3 inch (75 mm) wide.
- 12.12. Window net
  - 12.12.1. Driver side window net is recommended.
  - 12.12.2. If the net is in use, it should meet the following requirements:
    - 12.12.2.1. Net should be made of. ¾ inch (19 mm) wide fire-resistant cloth ties.
    - 12.12.2.2. Net windows are min. 25 mm x 25 mm and max 60 mm x 60 mm.
    - 12.12.2.3. The net ties should be sewed together at crossing places.
  - 12.12.3. Net installation:
    - 12.12.3.1. The net should be fixed on driver door side safety bar or over driver door window safety bar in easy fix / remove way.
    - 12.12.3.2. In the case of car overturn the safety net should not be released by itself, but it should be easily removed by hand. For this reason a colored handle should be installed with an unlocking arrow in the car exterior.
    - 12.12.3.3. 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".
    - 12.12.3.4. Only winding fixing is allowed for net fixing to a bar.
    - 12.12.3.5. No changes of the safety bars are allowed.

### **13. Chassis and frame**

- 13.1. Allowed is car with integral body or tubular- or monocoque frame.
  - 13.1.1. The chassis must be in conformity with the original car model.
  - 13.1.2. The external shape can be changed by making aerodynamic changes
  - 13.1.3. Doors and hatches can be replaced by appropriate parts.
  - 13.1.4. Stationary door (so-called NASCAR-door) is permitted, if:

13.1.4.1. the dimensions of the window opening exceed 400 mm in height and 800 mm in length

13.1.4.2. window-net is installed on the driver´s side.

13.1.5. The driver should be able to exit the car independently in full equipment in max 7 seconds and in max 9 seconds from the side of passenger.

13.1.6. The laminated windscreen is obligatory or the windscreen may be replaced by at least 5 mm thick polycarbonate plastics

13.1.7. The side windows (except driver side window) may be replaced by at least 2 mm thick polycarbonate plastics

13.1.8. The driver side window may be replaced by at least 3 mm thick polycarbonate plastics

13.1.9. The side windows can be removed; in this case the window net, covering driver side window opening, is required.

13.1.10. The floor and the fire plates can be changed.

13.1.11. The engine and its working parts and accessories must be separated from the driver's compartment.

13.1.12. The oil, fuel and cooling water hoses placed in the driver's compartment must be equipped with shock, scratching and fire protection.

13.1.13. In any case the cockpit and luggage compartment must be separated by a fireproof and leakproof plate.

13.1.14. The maximum width of the car must not exceed 2100 millimeters.

13.1.15. The original wheelbase must not be changed by more than 5%.

13.1.16. The car must be equipped with at least one front and one rear external towing hook or strap which must conform to the following:

13.1.16.1. permit the insertion of a round bar of diameter 40 mm

13.1.16.2. be attached forward of the front axle and rearwards of the rear axle

13.1.16.3. be clearly visible, the chosen color must be in contrast to the color of the bodywork immediately adjacent to the towing eyes

#### **14. Electrical system**

14.1. All automatic or electronic control systems or similar functions are prohibited with following exceptions:

14.1.1. breaker switch for sequential gear changing,

14.1.2. speed limiter,

14.1.3. turbo-chargers dump valve or bypass-valve,

14.1.4. Engine Control Unit (ECU). ECU means the electronic unit that controls the spark, fuel and turbo settings of the engine,

14.1.5. datalogger

## 14.2 Traction control

All forms of traction control are prohibited. In order to measure the speed of the car, a single sensor on one driven wheel may be used.

This sensor must be connected only to the speedometer and must have no connection whatsoever with the engine control system.

Whatever their positions, optical sensors for measuring the speed of the vehicle are prohibited.

14.3 The make, number and capacity of the battery(ies) are free.

14.4 It must be possible at all times to start the engine with energy of the battery transported on board of the vehicle.

14.5 Each battery must be securely affixed and covered in such way as to avoid any short-circuits or leaks.

14.6 Should the battery be moved from its original position, it must be attached to the body using a metal seat and two metal clamps with an insulating coating, fixed to the floor by bolts and nuts (see drawings 255.10 and 255.11 of FIA Appendix J).

14.7 Bolts with a diameter of at least 10 mm must be used for installing these clamps, along with a reinforcing plate under each bolt, that is at least 3 mm thick and has a contact area of at least 20 cm<sup>2</sup> to the sheet metal of the bodywork.

14.8 Cars must be equipped with at least following operational lights:

**14.8.1** one pair of headlights (low beam), 55W, if using LED-s the luminous intensity has to be of same magnitude,

**14.8.2** one pair of taillights (red), 10W, if using LED-s the luminous intensity has to be of same magnitude,

**14.8.3** one pair of turn indicator lights rear (yellow), 21W, if using LED-s the luminous intensity has to be of same magnitude,

**14.8.4** one pair of turn indicator lights front (yellow), 21W, if using LED-s the luminous intensity has to be of same magnitude,

**14.8.5** one pair of brake lights (red), 21W, if using LED-s the luminous intensity has to be of same magnitude.

14.9 It is allowed to place the controls of the engine surveillance system in the driver's compartment.

14.10 The windscreen must be equipped with at least one operational windscreen wiper in front of the driver.

14.11 Otherwise the electrical system is free.

## **15 Aerodynamic devices**

- 15.2 All aerodynamic devices must be securely attached to the car.
- 15.3 The rear wing may not stretch over the most outer part of the chassis/bodywork in the side and roof directions of the car. If the car is hatchback it is allowed to install a rear wing on the roof. The maximum height of the complete wing is then 40 cm, as measured on the roof at the centerline of the wing mounting.
- 15.4 The maximum allowed width of the rear wing is the maximum width of the car.
- 15.5 The rear wing must not stretch over the most outer point of the actual chassis structure by more than 40 cm backwards in the driving direction of the car.
- 15.6 The front spoiler must not stretch over the foremost point of the actual chassis/bodywork by more than 20 cm.

## **16 Fuel system**

- 16.2 One or two fuel tank with a whole maximum capacity of 100 liter may be used.
- 16.3 Devices for reducing the tank capacity may be used.
- 16.4 Fuel tanks must meet the following requirements:
  - 16.4.1** safety fuel tank, min. FT-3 tank according to FIA specification.
  - 16.4.2** original fuel tank with original fixing and placed in the original location.
- 16.5 Filler holes must not protrude over the perimeter of the bodywork.
- 16.6 If the original filler hole is not used, it must be sealed.
- 16.7 Otherwise filler holes are free.
- 16.8 Use of maximum 2 pcs of collector-tanks with a maximum capacity of 2,0 liters is authorized.
- 16.9 Connections between the filler holes and the tank ventilation (it is compulsory) must be hermetic and fireproof.
- 16.10 If the fuel tank is located in the luggage compartment of the car with a tailgate, a fireproof and leak-proof protective device must shield the tank.
- 16.11 Fuel lines may be changed for aviation type lines.
- 16.12 The installation of the fuel lines is free if the prescriptions of the article 253.3 of FIA Appendix "J" are respected.
- 16.13 Fuel pump(s) are free. If they are located in the cockpit, they must be separated from the driver's compartment by a fireproof and leak-proof protective device.

## **17 Additional fasteners**

- 17.2 At least two additional safety fasteners must be fitted for each of the bonnet and boot lids.
- 17.3 The original locking mechanism must be removed.
- 17.4 Bonnet and boot gas shock absorbers must be removed if they were used as safety fasteners.

## **18 Roll cages**

18.1 FIA homologated roll cages are eligible.

### **18.2 In other case:**

18.2.1 Cars with integral body should comply with art. 253.8 of FIA Appendix J and have producer's certificate or National Automobile Sport Federation Technical Commission certificate.

18.2.2 Cars with tubular- or monocoque frame should comply with art. 259.16 of FIA Appendix J: The car must be fitted with two rollbars, one to the front and one behind the chest of the driver and passenger. Both rollbars must correspond in shape to the inner profile of the upper part of the cockpit, and must be connected at the top by at least one tubular member (preferably two, with junctions as far apart as possible) or a box member. In addition, the rear rollbar shall comprise at least one diagonal reinforcing member and two backstays directed rearwards (see drawing 259-3).

The various authorised diagonal members are MQ, MS, NP, and NR, but it is preferable that the upper extremity of the diagonal of the main rollbar should be situated on the driver's side.

This structure must be made exclusively of steel tubing with the following minimum characteristics:

- Cold drawn seamless carbon steel:

Diam. 45 x 2.5 mm Minimum yield stress: 350 N/mm<sup>2</sup> for cars built after 01.01.98.

Minimum yield stress: 300 N/mm<sup>2</sup> for the other cars.

- Alloy steel type 25 CD4 (25CrMo4, EN 1.7228): Diam. 40 x 2.5 mm , yield stress: 400 N/mm<sup>2</sup>

18.3 Roll bars that are placed closer than 50 cm to the drivers helmet if sitting with safety harnesses, must have a soft protection; padding must comply with FIA standard 8857-2001 type A or type B; at 01.01.2008 is compulsory only type A.

## **19 Fire extinguisher/ extinguishing system**

19.2 All cars must be equipped with extinguishing systems according to art. 253.7.2 or 253.7.3 of FIA Appendix J.

19.3 The following information must be visible on each extinguisher:

- 19.3.1 type of extinguishant,
  - 19.3.2 weight or volume of the extinguishant,
  - 19.3.3 the date of filling or the date of last check.
- 19.4 Fire extinguisher is valid for 2 years.
- 19.5 The driver must be able to trigger all extinguishers manually when seated normally with his safety belts fastened and the steering wheel in place.
- 19.6 Furthermore, the means of triggering it from outside must be combined with the circuit-breaker switch, or situated close to it. It must be marked with the letter "E" in a white, minimum 100 mm diameter circle.
- 19.7 Fire extinguisher location on the car door should outside be marked with red "E" in a white, minimum 100 mm diameter circle.

## **20 Emergency voltage switch**

- 20.2 A non-sparking emergency voltage switch is compulsory.
- 20.3 An emergency voltage switch should disconnect all electrical circuits of the car:
- 20.3.1 battery,
  - 20.3.2 generator,
  - 20.3.3 lights,
  - 20.3.4 sound signal,
  - 20.3.5 ignition system,
  - 20.3.6 electrical equipment,
  - 20.3.7 and other possible applications.
- 20.4 There should be a possibility to trigger it from inside and outside.
- 20.5 An outside emergency voltage switch should be:
- 20.5.1 installed to the left of the windscreen
  - 20.5.2 marked with a sign of a red lighting in a blue triangle with a white edge. Each side of the triangle should be not shorter than 12 cm.

## **21 Mirrors**

- 21.2 The car must be equipped with two exterior and one interior mirrors

## **Appendix 1**

Minimum allowed weight of the car dependent on the engine options and cylinder displacement

cc	kg	cc	kg
1600	765	5800	1217
1700	779	5900	1226
1800	793	6000	1235
1900	807	6100	1243
2000	821	6200	1251
2100	835	6300	1259
2200	848	6400	1267
2300	861	6500	1275
2400	874	6600	1282
2500	887	6700	1289
2501	888	6800	1296
2600	888	6900	1320
2700	901	7000	1328
2800	914	7100	1336
2900	927	7200	1344
3000	940	7300	1350
3100	952	7400	1356
3200	964	7500	1364
3300	976	7600	1372
3400	988	7700	1380
3500	1000	7800	1388
3600	1011	7900	1396
3700	1022	8000	1404
3800	1033	8100	1412
3900	1044	8200	1420
4000	1055	8300	1428
4100	1064	8400	1436
4200	1073	8500	1444
4300	1082	8600	1452
4400	1091	8700	1460
4500	1100	8800	1468
4600	1110	8900	1476
4700	1120	9000	1484
4800	1130	9100	1492
4900	1140	9200	1500
5000	1150	9300	1508
5100	1158	9400	1516
5200	1166	9500	1524
5300	1174	9600	1532
5400	1182	9700	1540
5500	1190	9800	1548
5600	1199	9900	1556
5700	1208	10000	1560

Actual cylinder displacement must be multiplied by factors above according to following conditions.

<b>Engine type:</b>	
A: 2 valves per cylinder	1,00
B: More than 2 valves per cylinder	1,20
C: 2 valves per cylinder and supercharging with screw compressor	1,60
D: 2 valves per cylinder and turbocharging	1,70
E: Radial Wankel	1,80
F: More than 2 valves and supercharging with screw compressor	1,90
G: More than 2 valves and turbocharging	2,00
H: Turbocharging and supercharging with screw compressor	2,20

I: Radial Wankel and supercharging
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2,50
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NB! 10% weight addition for four-wheel drive, four-wheel drive cars maximum 5000 cm<sup>3</sup>, inclusive factors above.