

## 14.0 Appendix C IC Circuit

14.1.4 The National series for 1/8th IC Circuit and 1/10th IC Circuit shall be 6 rounds and the best 4 to count as per general rules regarding points scoring.

14.2 1/8th IC Circuit - 4 wheel drive

### TECHNICAL SPECIFICATIONS

14.2 All measurements referred in this appendix are minimum or maximum values. All measurements for the motor dimensions to be considered with 2 digits behind the comma, all other measurements to be considered 1 digits behind the comma. Measurements must be within their maximum or minimum values under all Circumstances.

14.2.1 The engine may have a total capacity of not more than 3.50 ccm. A maximum carburettor diameter of 9.00 mm.

14.2.2 The fuel tank including filter and fuel pipes up to the carburettor may hold a maximum of 125.00 ml. No loose inserts allowed. Any tank found illegal (>125 ml) after a heat or final shall be removed from the car and inspected for a second time after an initial "cool down period" of approx. 15 minutes. This period of 15 minutes is only necessary in case the temperatures are above 20° C.

14.2.3 Overall dimensions:  
Wheel base:270.00-330.00 mm  
Overall width max.:267.00 mm, measured on top of the wing and on top of the sides.  
The lower sides will not be taken into account for technical inspection as long as they are not wider as 277mm. If the body is wider as 277 mm on the lower sides the technical inspection has the right to take action with a first warning and when in second case with disqualification from the result. For all finals bodies must first pass technical inspection for verification and first warning is not applicable.

#### 14.2.4 TYRES

Maximum width rear: 64.00 mm

Tyres must be black, except for writing on the side walls, Foam and/or rubber tyres can be used. Treatment of the tyres with additives is prohibited. Any violation with tyre treatment will means 5 years of disqualification from any EFRA and IFMAR event.

#### 14.2.5 RIMS

The rim must not exceed 54.00mm + 1.00 mm tolerance diameter. An edge to reinforce the rim on the inside (carside) of 2.00 mm thickness and 3.00 mm height is allowed, flange diameter max. 60.00 mm. Any fixing bolts or other equipment installed in the wheel rims may not extend beyond the exterior of the wheel rim.

14.2.6 All vehicles must be equipped with brakes and a clutch in such a manner, that the vehicle may be held stationary with the engine running.

14.2.7 Each motor must be equipped with an exhaust system and an inlet silencer to reduce the amount of noise generated by the car. The maximum noise level for a muffler with INS box is 83 dB's, measured at ten (10) metres distance and one (1) metre high for a single car. EFRA's definition of a noise level is always final. Only EFRA homologated 3-chamber mufflers are allowed on EFRA sanctioned events. The EFRA homologation number must be engraved on the sidewall of the muffler. The use of the 3000 series of mufflers is allowed, the manifolds are free. The use of partly the mufflers of the 2007 list, from i.e. EFRA2040 till 2060, with or without an extra silencing unit. EFRA will do some tests to search for the better mufflers. Use of any new 3100 series of a minimum of 2-chamber mufflers which are equipped with an extra silencer or comply to a far better noise level as the 3000 series.

14.2.8 The front of the vehicle must be equipped with a bumper in such a manner, that it will minimise an injury in the case of it enters into contact with other participants or members of the public.

The bumper must be made from a flexible material with all corners and sharp edges rounded off. The contour of the bumper will follow the contour of the body with which it is being used. At no point may the bumper protrude more than 5.00 mm in front and 13.00 mm on the sides of the body.

14.2.9 If a rear bumper is fitted it must finish not more than 50.00 mm behind the rear axle.

14.2.10 The aerial must be made from a flexible material.

14.2.11 Bodies must be a 1:8 scale in character reproduction of vehicles that exist or have existed in the last five years. There will be an allowance of 10% tolerance in all dimensions.

14.2.12 All EFRA sanctioned events will be raced with open/closed cockpit prototypes/ sportscars/ canam type/GT-P's/Group-C or similar cars. All lists of approved equipment, (ie. Bodies, mufflers and batteries) must be available on EFRA's webpage from the 1st of March every year. This is the finale lists for this year and no changes will be made before the next year. Equipment

homologated during the year will not be put on the list until 1st of March next year.

14.2.13 The body must be made from a flexible material and be painted properly. When initially entered in a meeting the body must be neatly finished.

14.2.14 A realistic driver (minimum 3 colors) made to 1:8 scale must be fixed in the correct position in an open cock-pit cars. The windscreen and windows must be translucent (ie. Not completely painted in).

14.2.15 All bodies must have the front and rear wheel arches cut out if the original was so designed.

#### **14.2.16 CUT OUTS**

-the windscreen must not be cut out. One hole of max. 6.00 sq. cm for cooling is permitted

-side windows and rear windscreen may be removed

It is not allowed to bend windows to the outside

-all parts of the vehicle must be covered, except:

- a) cooling head of engine
- b) air filter
- c) aerial (max. 10.00 mm)
- d) outlet pipe of muffler
- e) fuel filler cap
- f) roll-over bar

Only if these parts are extending the body. Cut outs for above mentioned parts are to have no more than 10.00 mm clearance.

In addition to this, the following holes are allowed:

- g) for muffler outlet
- h) for fuel filler cap (50.00 mm maximum, round, viewed from above and not combined with the hole from the roll-over bar, or oval 40mm x 60mm maximum and not combined with the hole for the roll-over bar)

Note: Hole for roll-over bar and fuel filler gap may not be combined.

This rules refers to the GT-P/Group-C body.

In case of the Proto types or open cockpit cars a clearance of 10 mm around the fuel filler cap is allowed.

- i) for radio switch (max. 10.00 mm)
- j) for glow plug (max. 20.00 mm)
- k) fuel mixture valve (max 15.00 mm)

14.2.17 Specific body attributes

- a) Group C: Cars eligible for this class are those that have been used under "Group C" rules in the FISA Sportscar World Championship.

- b) GT1/GT2-Cars: Cars eligible for this class are those that are or have been racing in FIA GT Class. This can be either GT1 or GT2 cars like McLaren F1, Porsche 968 GT1, Ferrari F40, Marcos etc.

The cut-out of the body at the rear is free after the rear axle, but rear lights must be fitted if the original is equipped with these.

- c) GT-P cars, eligible for this class are those that are or have been racing in the FIA "GT-P" class (see Le Mans 1999), or the Petit Lemans Series in America.
- d) Proto type CAN-AM cars, eligible for this class are those that are or have been racing in any official championship.

Homologation procedure; For all types of cars, the body shape behind the rear axle is not subject to control.

The outer edge of the wheels must be covered at the centre of the axles viewed from the top. All bodies must be homologated by EFRA.

The homologation number of the body must to be visible, during the painting it will be possible to maintain transparent or semi transparent the EFRA number.

#### **14.2.18 Wings and Spoilers**

Whether build into the body or separate, they must have an angle of minimum 35 degrees measured on the vertical line inclusive of any added aerodynamic aids. If separate, they must have a chord of no more than 77 mm. Any added aerodynamic aids must have a chord of no more than 77 mm. Maximum height for the body, side and rear wing is 170mm with the chassis raised on 10mm blocs. This maximum height is excluding the Gurney strip, but including it in case of a separate wing. The maximum overhang is 100mm measured from the rear axle center point. The angle is to be measured with a specific tool as follows:

separately mounted:

directly added:

The angle to be measured over a distance of 77 mm from the highest point of the spoiler or Gurney flap to the middle of the body.

You need a tool from which you can adjust the height and the angle.

The angle must be a minimum of 35° or bigger.

Maximum dimensions:

1) Group "C", GT-P cars

max. width:267.00 mm

max. height:170.00 mm (inc. added parts) with 10 mm spacer under the chassis

max. chord:77.00 mm

max distance behind rear axle: 100.00 mm

A single plane rear wing/aerodynamic aid need not be homologated. Any front wing or multi plane rear wing must have an EFRA homologation number moulded into the shell. It may only be used with the shell of the same number.

2) GT1/GT2-Cars

max. width:267.00 mm

max. height:170.00 mm with 10mm spacer under the chassis

max. chord:77.00 mm

max distance behind rear axle: 100.00 mm

Single plane wings are only eligible for this class, they do not need to be homologated

3) Proto type Can Am Cars

max. width:267.00 mm

max. height:170.00 mm (inc added parts) with 10 mm spacer under the chassis

max. chord:77.00 mm

max distance behind rear axle: 100.00 mm

Starting from January 2011 the max. height is 160mm for Group C, GTP, GT1/GT2 and Proto type Can Am.

#### 14.2.19 Checks at the technical inspection

a) Before the race all cars will be checked and during the heats the following random checks will be made:

- weight limit
- muffler
- body and spoiler

The chassis is to be indelibly marked before the race and if a driver wants to change it, he must present the new and the old to the inspection officer.

b) During sub finals all cars moving up to the next final plus the next one are to be checked. In addition to the above mentioned checks the following are to be done during sub-finals:

- marking of chassis
- fuel tank capacity

c) The same checks must be made after the final for the top 4 places.

14.2.20 Fuel may only contain methanol (methyl alcohol), lubricating oil, a small content of anti corrosion chemicals and a maximum of 25% nitro methane in volume. The specific gravity of the mixture may not be heavier than 0.91. An EFRA approved fuel tester, e.g. Nitromax 25 will be available to verify fuel's conformity to the rules at technical inspection. Any violation with fuel which means any proof of the use of other additives as mentioned will mean 5 years of disqualification from any EFRA and IFMAR event.

14.2.21 4WD cars can be used without any technical restrictions except those listed in Section 5. The use of separate front wheel brakes, except through transmission is also not allowed (locking of one-way bearing is allowed).

2WD cars are restricted to:

Rear axle driven

Gearbox with maximum 2 gears

No front wheel brakes

No gas filled shock absorbers.

Specifications of flat chassis cars:

rear wheel propulsion only

one engine (one cylinder, 3.50 ccm air cooled)

brake on rear axle only

no gear box

no suspension, an articulated front end is allowed

14.2.22 The minimum weight limit of the cars:

2500 grams for 4 WD cars, 2300 grams for 2 WD cars. The weight limit will be checked with the cars ready to race but with empty fuel tanks and with transponder. (personal or with battery). The weight will be checked on a digital scale balance and can be done before the start of the heat, sub-final, final or after the end of either. If the weight is found to be under the minimum weight the driver should be disqualified from the heat, subfinal or final.

14.2.23 The car shall be measured for width by placing it on a baseboard equipped with two side rails of 20 mm height spaced 267 mm apart, constructed in such a way, that the car can roll freely between them. Base-board and rails must be constructed of high quality board suitably stiffened to prevent distortion. The car must roll freely between the side rails with any steer able wheel set in the straight ahead position without any part of the wheels, bumpers, body shell or any other part of the car touching the side rails irrespective of the compression or extension of the suspension. The car shall be measured for length and height in a similar constructed bow of internal

dimensions 637 x 267 mm for Formula and Sports cars and 610 x 267 mm for GT cars which includes provision for checking the maximum height. Measurement of the wheel base may be made by simple measurement of axle centre distance, but Race Directors should be prepared to make more exact checks in case of doubt or protests. It is suggested that the wheels are removed and the wheel spindles firmly placed on V-blocks whilst accurate measurements are made. It is the responsibility of the driver to ensure that his car complies with the regulation at all times, that it is on the track and the organiser may check any car for compliance with the regulations at any time during the race meeting. If a car is found to exceed the limits of dimensions on checking immediately after a race, positive proof of race damage may prevent disqualification.

- 14.2.24 A roll bar may be fitted which must not project more than 30 mm above the cooling fins or roof, in case of, for instance a saloon car.
- 14.2.25 It is not allowed to use any electronic parts for "Traction Control and braking control (ABS)" which can control the power of the transmission by means of a feedback system.
- 14.2.26 It is not allowed to use any form of telemetry with active transmission. All lists of approved equipment, (ie. Bodies, mufflers and batteries) must be available on EFRA's webpage from the 1st of March every year. This is the finale lists for this year and no changes will be made before the next year. Equipment homologized during the year will not be put on the list until 1st of March next year.

#### **14.4 200MM IC CIRCUIT 1/10TH SCALE**

##### **14.4.1 Classes**

- 14.4.1.1 Pro – 4wd cars conforming to measurements and specification rules below.
- 14.4.1.2 Pull start – 4wd cars conforming to measurements and specification rules below.

##### **14.4.2 GENERAL CONSTRUCTION**

- 14.4.2.1 All cars must have de-clutching device and have an operating brake capable of stopping the car and holding the car motionless with the engine running.
- 14.4.2.2 Chassis must be commercially available and bought as a branded 180mm to 200mm scale saloon.
- 14.4.2.3 The front bumper must follow the body contour and must be constructed so as to minimize injury that may result from being hit by a car.

- 14.4.2.4 Both 2wd and 4wd propulsion and braking is allowed.
- 14.4.2.5 Only single and 2 speed transmissions are permitted.
- 14.4.2.6 Exhaust pipe, should be of a 2 or 3 chamber construction and be stamped with a EFRA homologation number engraved on the sidewall of the muffler.
- 14.4.2.7 INS boxes should be fitted to the carburettor conforming to EFRA specifications. Pro class only.

#### **14.4.3 Appearance**

- 14.4.3.1 All cars must suitable arrangements for racing numbers to be displayed facing to the front and one side as directed by race control.
- 14.4.3.2 No car may be driven without a body shell being securely fitted at all times.
- 14.4.3.3 When initially entered in a meeting the body must be neatly finished and painted.
- 14.4.3.4 Only one rear wing is permitted.

#### **14.4.4 Body shells**

- 14.4.4.1 Only body shells as follows:  
Honda Accord, Dodge Stratus, Opel Vectra, BMW 3-series, Ford Mondeo, Nissan Primera, Alfa Romeo 156, Chrysler 300M, Mercedes DTM2000, Volvo S60, Audi A4, Lexus Is200, Renault Laguna, Volvo S40, Volvo 850, Peugeot 406 or any suitable scale saloon shell. No GT or Sports car shells allowed (ie Group C, Lola etc.)

#### **14.4.5 Measurements**

- 14.4.5.1 A hole a 50mm maximum diameter of the height of the windscreen is permissible in the front windscreen for engine cooling.
- 14.4.5.2 Windscreen and all other windows must be transparent. Only the front side windows and the rear window may be removed in part or whole, other windows must remain clear and the rear side windows must remain intact. No windows to be bent to the outside.
- 14.4.5.3 A hole a maximum size of 30mm diameter is allowed in the roof for refuelling.
- 14.4.5.4 A hole a maximum size of 15mm diameter is allowed in the roof to access the glow plug.

- 14.4.5.5 A hole a maximum size of 10mm diameter is allowed in the roof for access to the mixture screw.
- 14.4.5.6 A hole a maximum size of 10mm diameter is allowed for an aerial tube to protrude.
- 14.4.5.7 Min weight without fuel and including transponder 1700g.
- 14.4.5.8 Height of the top of the roof (measured with a 10mm spacer under the chassis plate level) 120mm Min / 175mm Max
- 14.4.5.9 Width without body 170mm Min and 200mm Max.
- 14.4.5.10 Wing are allowed only if fitted to the original car and must be in the original position and may not project above the height of the roof line.

#### **14.4.6 Tires**

##### **Pro class**

- 14.4.6.1 Only rubber or foam tires are permitted. Wheels width (incl. tyre bead) and tyre width (across side walls): Max. Front width 31mm / Rear 31mm
- 14.4.6.2 Tire inserts may only be made of foam, rubber, sand or adhesive tape.
- 14.4.6.3 TREATMENT OF THE TIRES WITH ADDITIVES IS PROHIBITED.

##### **Pull start class**

- 14.4.6.4 Only rubber tires permitted.
- 14.4.6.5 TREATMENT OF THE TIRES WITH ADDITIVES IS PROHIBITED.

#### **14.4.7 Engines**

##### **Pro Class**

- 14.4.7.1 The engines may only have 4 ports including the exhaust port with a cylinder capacity up to 0.12cu inches or 2.11 cc.
- 14.4.7.2 A max. carb diameter of 5.50mm

##### **Pull start Class**

- 14.4.7.3 The engines may only have 4 ports including the exhaust port with a cylinder capacity up to 0.16cu inches small block only are allowed.
- 14.4.7.4 Fully functional pull starts including cord, casing, spring, pulley, one way bearing and crank extension, must be fitted to the car at all times.
- 14.4.7.5 Only engines which are specifically design for use with a pull start may be used.

#### **14.4.8 Pro & Pull start Classes**

- 14.4.8.1 Only methanol with 16% nitro methane is allowed in fuel for combustion purposes.
- 14.4.8.2 The fuel tank including filter & fuel pipe up to the carburettor may hold a maximum of 75ml. No loose inserts allowed in the tanks.
- 14.4.8.3 The engine must be fitted with an adequate silencing system and must not exceed 77db at meters. The maximum internal diameter of the outlet pipe is 5.2mm. The minimum total length of the outlet pipe is 10mm.
- 14.4.8.4 Standard and conical glow plugs are allowed.

#### **14.4.9 Heats & Finals**

- 14.4.9.1 All heats shall be 5 mins. in duration plus time to finish lap
- 14.4.9.2 Finals shall be a line start with each car spaced 2 meters on a staggered grid.

##### **Pro Class**

- 14.4.9.3 The A final shall be of 30 mins. duration, B final shall be 20 mins. duration and all subsequent finals should be of 10 mins.

##### **Pull start Class**

- 14.4.9.4 The A final shall be of 15 mins. duration, B final shall be 10 mins. duration and all subsequent finals should be of 5 mins.

#### **14.4.10 Pro & Pull start Class**

- 14.4.10.1 Cars must be lifted out of pit lane when being refuelled.
- 14.4.10.2 A Maximum of one machine per driver will be permitted in the pit lane service area during refuelling.