



## BRDA SuperModified Technical Regulations

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### 5.3.1 INTRODUCTION.

The following Technical Regulations are set out in accordance with the MSA specified format and it should be clearly understood that if the following texts do not clearly specify that you can make a modification you should work on the principle that you cannot.

**5.3.1.a** Class open to cars of rigid construction complying with FIA Division One-A, FIA Division Two, , plus two-wheel drive cars not eligible in Supercar but complying with the following regulations and having been homologated in Group N, A or B of FIA Appendix 'J' or in groups 1, 2, 3 or 4 of 1981FIA Appendix 'J' although homologation may have lapsed.

**5.3.1.b** Cars complying with current FIA Appendix 'M' regulations, in their entirety, are also permitted although homologation may have lapsed.

**5.3.1.c** Mass produced non-homologated vehicles may be accepted

**5.3.1.d** Rallycross vehicles complying with these regulations.

### 5.3.2 GENERAL TECHNICAL REQUIREMENTS AND EXCEPTIONS.

**5.3.2.a** Cars must comply with the Technical Regulations published by the Organisers for **The 2009 MSA British Rallycross Championship** throughout official practice, qualifying heats and finals. (See SR.4.)

**5.3.2.b** All cars must comply fully with the current MSA Yearbook regulations C(b) Technical. E69 to E81 inclusive and E110 to E134 inclusive and these supplementary regulations.

**5.3.2.c** No approved modification may give rise to an unapproved one.

**5.3.2.d** The use of magnesium alloy sheet is not permitted. Titanium sheet may only be used for heat shields.

### 5.3.3 SAFETY REQUIREMENTS.

**5.3.3.a** Minimum, Comply with current MSA Yearbook regulation E131. In addition:

**5.3.3.b** Roll over structure to C(c)Appendix 2 Drawing 9 are mandatory

**5.3.3.c** A currently FIA homologated competition seat and mountings are mandatory

**5.3.3.d** Currently FIA homologated Seat Belts are mandatory. With two separate fixing points for the shoulder straps.

**5.3.3.e** From a 'race ready' position with seat belts fastened, the driver must be able to vacate the car in 5 seconds.

**5.3.3.f** A fire extinguisher MUST be fitted; the minimum specification must be to current MSA Regulations. (C(c) Table 56 (b) or (c) not necessarily plumbed in)

### 5.3.4 CHASSIS and BODYWORK.

**5.3.4.a** If bumpers are removed, both must be removed, and all supports must also be removed. It is prohibited to reinforce the front apron.

**5.3.4.b** Have any undertray provided with drainage holes to prevent accumulation of liquids.

**5.3.4.c** Have a windscreen of either laminated glass or polycarbonate of the required thickness. No apertures will be permitted in windscreens. All drivers must wear approved goggles or visor unless the car is fitted with polycarbonate windscreen.

**5.3.4.d** Have an operative windscreen wiper and washer system.

**5.3.4.e** A wire mesh stone guard adequately affixed to the bodywork and with a minimum matrix of 1in is permitted with any type of windscreen.

**5.3.4.f** When viewed from above wheels must be covered by rigid material at all times. The outside shape of the original coachwork must be retained except as concerns the wings.

**5.3.4.g** Have a bulkhead separating the cockpit from the engine compartment. It must retain its original material and place, measured in respect of the relevant standard car. Installing components up against or passing through this bulkhead is however permitted, providing it does not protrude into the cockpit more than 20cm (as measured perpendicularly to the bulkhead). This will be measured at the point of intrusion, and parallel to the ground. If this is to include the engine, the cam/valve cover may not extend further back than the forwardmost point of the windscreen aperture when viewed directly from above. For scrutineering purposes a 13mm diameter hole must be drilled at the forward most point of the Screen aperture.

**5.3.4.h** Openings may be made in the bonnet or boot lid for ventilation, providing they do not make mechanical components visible.

**5.3.4.i** Bumpers, if fitted, must both be as originally fitted to the mass produced vehicle. The supports must also be as originally fitted to the mass-produced vehicle. No reinforcing of bumpers or supports is permitted.

**5.3.4.j** Have internal bonnet locks removed and external positive locking fasteners fitted.

**5.3.4.k** Have towing eyes of adequate strength and size fitted front and rear. These should be painted a contrasting bright colour.

**5.3.4.l** Be fitted with at least one mirror of minimum surface area 50sq.cm securely mounted and positioned to give a clear view to the rear. The edges of the mirror must be protected by a suitable cover to reduce the possibility of injury in event of an accident

**5.3.4.m** Under no circumstances can any part of the bodywork or the suspended parts of the car be below a horizontal plane passing 40mm above the

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ground, the car being in normal race trim with the driver strapped into the seat

#### **5.3.4.n Aerodynamic devices - Front**

Material and shape are free but must:

- i) Be made from a material that is not less than 2mm and not more than 5mm thick.
- ii) Not protrude beyond the vertical projection of the front bumper of the homologated car.
- iii) Be contained within the vertical plane passing through the axis of the front wheels and the horizontal plane passing through the lowest point of the door opening.

#### **5.3.4.o Aerodynamic devices – Rear**

Material and shape are free but must:

- i) Be made from a material that is not less than 2mm and not more than 5mm thick.
- ii) Must be contained entirely within the frontal projection of the car without its rear view mirrors and within the plan of the car seen from above.

**5.3.4.p** Be fitted with mudflaps behind all four wheels extending to a minimum of 3.8cm either side of the tyre tread and to a maximum of 7.6cm above the ground.

#### **5.3.5 ENGINE.**

**5.3.5.a** The engine is free but the block must be from a mass produced engine, although production may have lapsed, and must have the same number of cylinders as the original mass produced engine for that car.

**5.3.5.b** The engine must be located within the original engine compartment.

**5.3.5.c** Twin-engine configurations are not permitted unless mass produced in that form.

**5.3.5.d** Have catch tanks fitted.

**5.3.5.e** Have any oil tank, which is, situated outside the chassis or main structure of the vehicle suitably covered with a protective coating (e.g. GRP).

#### **5.3.6 TRANSMISSION.**

**5.3.6.a** Transmission is free other than as below.

**5.3.6.b** The clutch and its control are free, but automatic operation of the clutch is prohibited, unless fitted by the manufacturer to that body style. The clutch must be operated by the driver's feet, unless an alternative method of operation is fitted by the manufacturer to that body style.

**5.3.6.c** Gear selection mechanism must be mechanically operated. Electronic, hydraulic or pneumatic mechanisms are prohibited, unless fitted by the manufacturer to that body style.

**5.3.6.d** The final drive assembly, differentials, propshafts and driveshafts are free.

**5.3.6.e** Electronically controlled systems are prohibited.

#### **5.3.7 SUSPENSION and STEERING**

**5.3.7.a** Suspension is free other than as below.

**5.3.7.b** Active suspension and any system which allows control of the spring flexibility, shock absorption or trim height when the car is moving, are prohibited unless fitted by the manufacturer to that body style.

**5.3.7.c** Have steering column locks rendered inoperative

#### **5.3.8 BRAKES.**

**5.3.8.a** Brakes are free other than as below.

**5.3.8.b** An effective handbrake is obligatory. The handbrake may be modified for fly-off operation. There must be at least two hydraulic systems so that, in the event of failure of one system braking is maintained on at least two wheels (not on the same side).

**5.3.8.c** The braking system on all vehicles must be capable of demonstrating its efficiency without impairing the driver's control when tested immediately prior to an event.

It must be possible under all conditions, running or stationary, for 25% minimum braking effort to be applied by the driver through the braking system to each axle.

**5.3.8.d** Brake balance adjusters must not be capable of adjustment during running if they contravene (b).

**5.3.8.e** Anti-lock devices are prohibited.

**5.3.8.f** Brake discs must be of ferrous material.

#### **5.3.9 WHEELS.**

**5.3.9.a** Have maximum wheel width on all cars of 25cm (wheel width = flange + rim + tyre).

**5.3.9.b** Have all nuts securing road wheels, excepting those of centre-lock type, of steel and in thread contact over a minimum length of 1 1/2 bolt/stud diameters. Extended or composite wheel bolts/studs are prohibited. Safety wheel nuts to prevent wheels pulling over the standard nuts are strongly recommended.

#### **5.3.10 TYRES.**

5.3.10a Free subject to 5.3.9.a above, subject to Championship regulations.

**5.3.10.b** Hand-cutting is permitted but only for the purpose of introducing additional grooves no deeper than those moulded into a new tyre. Hand cutting in order to increase the depth of existing moulded grooves is prohibited.

#### **5.3.11 ELECTRICS.**

**5.3.11.a** All lights may be removed

**5.3.11.b** All cars must be equipped with two rear lights of the anti-crash type as used in fog with minimum of 15 watts each and illuminated area of 60sq.cm. These must work with or replace the car brake light system at all times and must be between 115cm and 150cm above the ground and must be clearly visible from behind.

**5.3.11.c** Generators are optional but the self starter system must be operable at all times.

**5.3.11.d** Be equipped with an ignition cut-off switch having positive ON-OFF position clearly marked, and which must be operable by the driver when normally seated with seat belts secured. It must also isolate electric fuel pumps.

**5.3.11.e** Have any forward facing lamps of more than 32sq.cm surface area adequately protected in case of glass breakage.

**5.3.11.f** A red rear warning light complying with current MSA Yearbook regulation Q.5. Must be fitted

### **5.3.12 WEIGHT**

The minimum weight for all vehicles with driver wearing full race apparel is 800Kg.

### **5.3.13 FUEL TANK and FUEL**

**5.3.13.a** Be equipped with an effective method of stopping the full supply that can be operated by the driver when normally seated with seat belts secured

**5.3.13.b** Either Pump fuel as defined in 2009 MSA Blue Book "The Terminology" or FIA 2009 Appendix J Article 252, Article 9 maybe used.

5.3.13.c Cars must be equipped with the facility to enable a fuel sample to be taken. For fuel injected cars the facility must be a dry break fuel sampling coupling, approved by the FIA. Competitors to carry and make available a 300mm minimum length of hose to which, where necessary, the appropriate mating part is to be attached.

5.3.13.d Have sufficient fuel for a fuel test present at any time during the meeting to comply with the fuel sampling requirements as laid down in the MSA year book (A)82-90 Procedure for fuel testing.

### **5.3.14 EXHAUST and SILENCING**

**5.3.14.a** Comply with current MSA Yearbook Regulations C(b)22 & C(b)23

### **5.3.15 Telemetry / Voice communications**

**5.3.15a** Any form of wireless data transmission between the vehicle and any person and/or equipment (other than that required by the time keepers) is prohibited while the car is on the track.

Data transmission through a temporary physical connection is allowed in the paddock only.

**5.3.15b** Radio and/or voice communication between the driver and any person and/or equipment is prohibited while the car is on the track.