



## BRDA Stock Hatch Technical Regulations Published 4 March 2009

### 5.5.1 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.

**5.5.1.a** Stock Hatch cars are 2-wheel drive four seater hatchbacks.

**5.5.1.b** The Stock Hatch Car Class is for hatchback cars that are, or have been available on general sale to the public in the UK and, in class A are at least 3 years old. Competitors must be able to produce proof of date of registration.

### HOMOLOGATION SPECIALS ARE NOT PERMITTED

The cars will run in two classes to include: -  
Class A

- a) Cars with engine capacities up to 1600cc having no more than 2 valves per cylinder.
- b) Cars with engine capacities up to 1400cc, which may have more than two valves per cylinder having fixed valve timing.

### Class B

Cars with engine capacities up to 1600cc having more than two valves per cylinder

### 5.5.2 GENERAL TECHNICAL REQUIREMENTS AND EXCEPTIONS.

**5.5.2.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.)

**5.5.2.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.

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

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

### 5.5.3 SAFETY REQUIREMENTS.

**5.5.3.a** Minimum, Comply with current MSA Yearbook regulation E131

**5.5.3.b** Provided that the front bulkhead is not penetrated and that no part of the cage extends rearwards beyond the rear shock-absorber mounting points, optional bars as per C(c)6 are permitted.

5.5.3.b(a) Class B ONLY may fit optional bars as C(c) drawing 11.

**5.5.3.c** A Competition Seat with headrest is mandatory in accordance with C(c)50, C(c)51 and C(c)103 and 104.

**5.5.3.d** Currently FIA Homologated Seat Belts are mandatory, with two separate fixing points for the shoulder straps.

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

**5.5.3.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)

### 5.5.4 CHASSIS and BODYWORK.

**5.5.4.a** The standard body shell MAY NOT be strengthened except for the following: -

- i) The fitting of the roll cage as 5.5.3.a & b
- ii) The reinforcing of the standard suspension mounting points may NOT extend to more than a radius of 100mm from the centre of the suspension point.
- iii) To prolong the life of the body shell it is permitted to carry out seam welding.

**5.5.4.b** The exterior of the car MUST remain as standard including mirrors, door handles and bumpers, although it is permitted to remove body mouldings, badges and the radio aerial. It is permitted to fit guards to engine sump and fuel tank. Any guards may protect but NOT strengthen.

It is NOT permitted to reinforce the bumpers or their mountings.

**5.5.4.c** Glass sunroofs MUST be replaced as per MSA Yearbook Regulation G129.

**5.5.4.d.** The side and rear window glass must be replaced with Perspex having a minimum thickness of 4mm.

Consideration MUST be given to driver's compartment ventilation and for this purpose only, it is permitted to cut a maximum of 4 X 2-inch diameter holes in each of the rear side and tailgate windows. A vent hole may also be added to the driver's door large enough to accept the driver arm.

**5.5.4.e** The interior of the car MUST have the roof lining, carpets and all the seats, apart from the driver's (See 5.5.3.c), removed. It is also required that any audio equipment, spare wheel, tools and standard seat belts be removed. It is permitted to remove the door trim panels and the window regulators (the windows must then be fixed to prevent them opening). It is recommended that trim panels are replaced by aluminium or Kevlar panels.

**5.5.4.f** An interior mirror of a minimum of 50 sq. cm. MUST be fitted. The original dashboard MUST be retained although instruments may be replaced. Dashboard may be modified to allow fitment of roll cage.

### 5.5.5 ENGINE.

**5.5.5.a** The engine and gearbox must be as originally fitted as original equipment to the car and be in the original location.

**5.5.5.b** Pistons must be unmodified standard production or approved replacement pistons subject to a maximum oversize of +0.5mm. (even if this increases the capacity beyond 1400/1600) Competition pistons are prohibited. Stroke must comply with Manufacturer's original specification. Material may be removed from the skirt area only for balancing purposes. In this case ONE piston must remain unmodified.

**5.5.5.c** Lightening of crankshaft or con rods is prohibited. Balancing may be carried out by pin drilling only.

**5.5.5.d** Camshaft must be standard as originally supplied for type of engine used. It may not be machined or reprofiled. Original timing gear must be used. Offset keys or adjustable vernier drives may not be used, unless fitted to the original engine.

**5.5.5.e** Cylinder head must be standard as originally fitted to the type of engine used. No gas flowing or polishing is allowed. The original terrain must be visible in the inlet & exhaust ports and in combustion chambers. Heads may be skimmed for maintenance purposes only and may not be less than Manufacturer's minimum dimension.

**5.5.5.f** Competition flywheels are not permitted. The standard unit may not be lightened or machined.

**5.5.5.g** It is permitted to baffle the standard sump and modify the oil pick up pipe. Dry sumping is not allowed.

**5.5.5.h** It is permitted to fit an oil cooler within the engine compartment.

**5.5.5.i** It is permitted to remove/replace the original air filter and filter housing with a performance filter or induction kit. Where engine breather pipes cannot be refitted to the induction system, breather pipes must go to a breather catch tank of adequate size. It is permitted to change carburettor jets or injectors. It is NOT permitted to modify the inlet manifold system including the throttle mechanism, carburettor, fuel pressure regulators, and throttle body apart from fitting an additional external throttle spring

**5.5.5.j** The standard ignition/engine management system MUST be retained but it is permitted to fit a modified "chip". Rev. limiters may be fitted or removed. Spark plugs and ignition leads are free. It is NOT permitted to add additional ignition systems.

**5.5.5.k** All water radiator and hoses are free but the original radiator location MUST be retained. Heater may be removed and pipe work blanked off or linked together in the engine compartment.

#### **5.5.6 TRANSMISSION.**

**5.5.6.a** The standard gearbox casing and all internals MUST be retained. Gear ratios & final drive ratios must be the same as originally supplied for that model of car. Torque bias and limited slip differentials are not permitted even if fitted as original equipment.

**5.5.6.b** Torque bias and limited slip differentials must be replaced by a normal differential with the correct ratio.

**5.5.6.c** Any form of traction control is not permitted.

**5.5.6.d** Standard drive shafts must be retained.

**5.5.6.e** The clutch drive plate and cover may be up rated by a standard pattern type. It must fit without any modification to the flywheel. Friction material is free providing it is to the original configuration.

#### **5.5.7 SUSPENSION and STEERING.**

**5.5.7.a** It is permitted to fit non-standard shock absorbers and springs provided that they mount onto the body at the standard suspension mounting points. Any shock absorber units may only have a single method of damping adjustment. Multi-adjustable and/or remote reservoir types are prohibited

**5.5.7.b** The ride height may be altered. Adjustable spring platforms are permitted

**5.5.7.c** It is permitted to fit up rated bushes to the suspension (No rose type joints permitted)

**5.5.7.d** It is permitted to fit, remove or up rate anti-roll bars. (No rose type joints permitted)

**5.5.7.e** It is not permitted to have adjustable suspension geometry. I.E. Camber, Caster unless fitted as standard to the original car, the car MUST retain the type of suspension fitted as original equipment. Camber must at all times be no more than 1 degree more or less than the original manufacturers specified figure. Competitors must be able to provide manufacturers data to prove the original camber of their car.

**5.5.7.f** Strut braces are permitted and their design and material are free, but they must not connect to any part of the front bulkhead.

**5.5.7.g** The steering lock must be removed

#### **5.5.8 BRAKES.**

**5.5.8.a** The standard braking system must be retained.

**5.5.8.b** Friction material is free.

**5.5.8.c** Standard pattern after market ferrous discs and drums may be used.

**5.5.8.d** It is not permitted to use cross-drilled or grooved brake discs/drums.

**5.5.8.e** Brake lines may be re-routed. It is recommended that flexible braided brake lines be installed.

**5.5.8.f** It is permitted to replace/add a brake pressure-limiting valve. Any such valve must not be able to be adjusted by the driver while driving the car. It must comply with MSA Yearbook Regulation E97

**5.5.8.g** It is permitted to remove or deform brake back plates and add additional ducting to aid brake cooling.

#### **5.5.9 WHEELS.**

**5.5.9.a** Wheels MUST retain standard diameter and offset and be of maximum rim width of 5.5", unless the standard rim width of the model is greater. Non-standard wheels may be fitted but standard diameter and offset must be retained.

**5.5.9.a(1)** Where a control tyre of correct dimension is not made, the organisers may, at their discretion authorise a wheel with a different diameter and/or width.

**5.5.9.b** The length of the wheel stud or wheel bolt is free. Wheel fixings are free but must match the wheels.

**5.5.10 TYRES.**

**5.5.10.a** C(e) List 1A or 1B unless specified in Championship Regulations.

Tyres may not have a lower profile than originally fitted by the Manufacturer.

**5.5.11 ELECTRICS.**

**5.5.11.a** The type of battery is free but it must retain the original manufacturer's location and be secured.

**5.5.11.b** The battery must be capable of repeatedly starting the engine.

**5.5.11.c** It is recommended that all lights are removed and similar shaped covers are fitted to the resulting holes.

**5.5.11.d** Two high-level brake lights MUST be fitted to the inside of the rear window in accordance with the MSA yearbook regulation E128.

**5.5.11.e** A high intensity rear light must be fitted in accordance with MSA Yearbook regulations E69, 70 and 71.

**5.5.11.f** Both charging and starting circuits must be as standard and function efficiently.

**5.5.12 WEIGHT.**

**5.5.12.1** A minimum weight, including driver, is set for individual makes and models of eligible cars. When a make/model is entered for which a minimum weight is not specified in these regulations the weight established for that make/model will be published in a Championship Bulletin issued prior to the first championship in which that car participates.

***The specified minimum weights will be reviewed after every 2 rounds. Any adjustments will be published by championship bulletin a minimum of 10 days prior to the next championship round.***

**5.5.12.2**

**Class A**

<b>Austin Rover</b>	<b>Kg</b>
Metro 1.4 Gti	850
<b>Citroen</b>	
Saxo VTR	910
<b>Ford</b>	
XR2i	880
<b>MG</b>	
ZR (on 16" wheels only)	930
<b>Peugeot</b>	
205 Gti	895
106 XSI	910
<b>Renault</b>	
Clio 1.4 16v	900
<b>Rover</b>	
214	940
<b>Suzuki</b>	
Swift Gti (Mk1)	720
<b>Vauxhall</b>	
Nova 1.6	825

Corsa	880
<b>Volkswagen</b>	
Golf Gti 1.6	845
Lupo	900
Polo GT	

**Class B**

	<b>Kg</b>
<b>Citroen</b>	
Saxo VTS	900
C2	900
<b>Ford</b>	
Fiesta	900
<b>Peugeot</b>	
106	900
<b>Volkswagen</b>	
Lupo	900

**5.5.13 FUEL TANK and FUEL.**

**5.5.13.a** The fuel pump, filter and fuel lines are free.

**5.5.13.b** Cold start systems may be disconnected or removed.

**5.5.13.c** Only Pump Fuel as defined in section P of the MSA yearbook is permitted

**5.5.13.d** The original fuel tank may be replaced by another provided it is located in the original location

**5.5.13.e** If the fuel tank is located inside the car, a safety, currently FIA homologated FT3 type must be fitted if the standard tank is not used.

**5.5.13.f** An alloy fuel tank, maximum capacity 5 litres, fitted with fuel tank foam may be fitted inside the engine compartment.

**5.5.14 EXHAUST and SILENCING.**

**5.5.14.a** The standard exhaust manifold MUST be retained.

**5.5.14.b** The exhaust system beyond the existing manifold is free but it MUST exit from the rear of the car

**5.5.14.c** Exhaust gas recirculatory systems may be removed.