

# CARIBBEAN RALLYCROSS

## Technical Regulations

### 1. Groups and classes (weights are with driver onboard and car in race condition as it exits the circuit)

		Cubic Capacity	2-valve	4/5-valve
5	Modified 4WD	0-2000 Turbo	34mm res.	1,300 Kg
4	Touring A	1,601 - 2,000	1,100 Kg	1,180 Kg
	Touring B	2,000 – 2,500	1,180 Kg	1,260 Kg
	Touring C	2,501 - 3,000	1,260 Kg	1,340 Kg
	Touring D	Over 3,000	1,340 Kg	1,420 Kg
3	Super-16	0 - 1,600	1,020 Kg	1,100 Kg
2	BimmaCup			1,150 Kg
1	Classic (pre-1990)	All	Production	weights

### 2. General Regulations

**1. PRODUCTION** means any car or part thereof listed in any publication as available to the public for general sale. **STANDARD** means 'as available from the manufacturer', including homologation forms, for the specific model of car entered. If a specific part is no longer available, competitors may request organisers' consideration of a performance equivalent which, if accepted, will be published and noted in the vehicle logbook.

**2. FUEL** – Restricted to VP-C9, VP-109, AvGas and Pump Fuel.

**3. ELIGIBILITY** - The following information needs to be presented to the organisers immediately upon demand: Original Manufacturers' brochure; owners' manual; FIA Homologation papers; listing in used-car buyers' guide or any material that is relevant to confirm the specification of a vehicle.

**4. All modifications are forbidden unless expressly stated** in the regulations specific to the group in which the car is entered, by the general regulations or "BMF Safety Equipment".

**5.** It is the duty of each competitor to satisfy the Scrutineers and the Stewards of the meeting that his vehicle complies with these regulations in their entirety at all times during the event.

**6.** Minimum weight is the real weight of the car as it competes with fully equipped driver on-board and ready to race. All liquid tanks (lubrication, cooling, braking, etc.) must be at the normal level. It is permitted to complete the weight of the car by one or several ballasts provided that they are strong and unitary blocks, fixed by means of tools with the possibility to fix seals, placed on the floor of the cockpit or roll cage.

**7.** Only the following accessories may be installed in the cockpit: safety equipment, communication equipment, ballast, windscreen washer container, sealed battery.

**8.** The top 1/3 of the wheel diameter must be covered by the wheel arch when viewed from above.

**9.** Throughout the car, any nut, bolt, screw, pipe or hose may be replaced and have any kind of locking device (washer, lock nut, etc.).

**10.** Interior insulation, lining, padding, interior trim and external decorative strips may be removed. The inner door and side panels may be replaced.

**11.** Jacking points may be strengthened, moved, and increased in number.

**12.** Under-body protection is allowed, provided that it has no other function and is removable.

**13.** All wiring may be replaced; switches, fuses, relays are unrestricted as is electronic control of non-driveline or suspension components. Head and tail lights may be replaced with fibreglass copies.

**14.** Roof vents and any other mechanisms for increasing cockpit airflow are unrestricted

**15.** A functional starter must be fitted and be operable by the driver when seated.

**16.** Cars must be fitted with a gearbox including a reverse gear and be able to be operated by the driver when he is normally seated.

**17.** Fluid reservoirs are unrestricted as long as they are secured, sealed and not mounted in the cockpit.

**18.** Transponders will be in use at each meeting. Each driver will be required to have their own transponder unless provided by the organisers. It is the driver's responsibility to ensure that their transponder is operating correctly. Any problems should be brought to attention of organisers immediately.

**19.** All cars must be equipped with front and rear towing eyes with a hole of minimum dimension 25mm x 40mm situated 25mm forward of the adjacent bodywork. They must be painted yellow, red or orange in contrast to the colour of the car.

**20.** Cars must be fitted with mud-flaps behind all four wheels extending to a minimum of 25mm either side of the tyre tread and to a maximum of 75mm above the ground.

**21.** At least one mirror of a minimum surface area of 500mm<sup>2</sup> must be securely mounted and positioned to give a clear view to the rear.

**22.** The rear doors of a 4/5 door car may be sealed shut by welding.

**23.** The locking devices on the bonnet and boot lid, as well as the hinges, are free, but each lid must be fixed at four points, and opening from the outside must be possible. The original closing systems must be removed.

**24.** There must be a brake light of at least 100 sq. cm mounted centrally at the top of the rear window.

**25.** It is permitted to remove the window opening mechanisms from all four doors or replace electric winders with manual winders. Side and rear windows must be replaced with 4mm polycarbonate. Windsheild must be laminated glass.

**26.** Wheel measurement: the complete wheel (flange + rim + inflated tyre) must always fit inside a U-shaped gauge, the measurement to be made on an unloaded part of the tyre.

**27.** Fuel tanks may be replaced by foam-filled fuel cells (manufactured by a recognized manufacturer) either in the original location of the tank or in the luggage compartment. There must be an orifice to evacuate any fuel which may have spread into the tank compartment. The position and the dimension of the filler hole as well as that of the cap may be changed as long as the new installation does not protrude beyond the bodywork and guarantees that no fuel shall leak into one of the interior compartments of the car. If the filler hole is situated inside the car, it must be separated from the cockpit by a liquid-tight protection. Tanks may be ventilated through the car roof.

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**28.** Fuel and hydraulic pumps and pipes are unrestricted but if pumps are mounted in the passenger compartment must be under a sealed cover so as not to contravene 2.7.

**29.** 4WD and/or turbocharged cars are only allowed in class 5 and are limited to 2.0ltrs capacity.

**30. TYRES. Performance road tyres with a minimum wear rating of 200 are mandatory. Where such tyres are not available in a particular wheel size (e.g. 13"), competitors may propose options that offer no performance advantage which, if accepted, will be added to these regulations.**

### **3. Classes 3, 4, 5: Modified Production cars homologated in FIA Groups N and A (including A7 Kit-Cars and A6 Super-1600 cars) with the following additional allowances:**

#### **1. Engine – modifications are unrestricted except for the following:**

- a. The engine block must be standard but may be over-bored 0.6mm or as per manufacturers' standards.
- b. The engine crankshaft must be standard but journals may be cut as per manufacturer – supplied bearings.
- c. The cylinder head must be standard but can be machined in any way. Valve sizes must be standard.
- d. Wet sump must be retained but may be modified. External oil accumulators may be fitted and oil coolers and filters are unrestricted.
- e. The fuel injection system is unrestricted but the inlet manifold, airflow meter and throttle body must be standard.
- f. Engine mountings are unrestricted.
- g. Exhaust systems are unrestricted from the joint with the manifold / turbo back to the exit. Additional parts for the mounting of the exhaust are allowed, the material is unrestricted.
- h. All supercharged cars are limited to an engine capacity of 2,000cc (plus manufacturer overbore).
- i. Exhaust manifolds must be standard.
- j. Turbos must be standard and must be fitted with a restrictor fixed to the compressor housing. All the air necessary for feeding the engine must pass through this restrictor. The maximum internal diameter of the restrictor is 34mm. This must be maintained for a minimum distance of 3 mm measured downstream of a plane perpendicular to the rotational axis situated at a maximum of 50 mm upstream of a plane passing through the most upstream extremities of the wheel blades (see current FIA Appendix J FIA drawing 254-4). This diameter must be complied with, regardless of the temperature conditions. The external diameter of the restrictor at its narrowest point must be less than 51mm and must be maintained over a distance of 5 mm to each side. The mounting of the restrictor onto the turbocharger must be carried out in such a way that two screws have to be entirely removed from the body of the compressor, or from the restrictor, in order to detach the restrictor from the compressor. Attachment by means of a needle screw is not authorised. For the installation of this restrictor, it is permitted to remove material from the compressor housing, and to add it,

for the sole purpose of attaching the restrictor onto the compressor housing. The heads of the screws must be pierced so that they can be sealed. The restrictor must be made from a single material and may be pierced solely for the purpose of mounting and sealing, which must be carried out between the mounting screws, between the restrictor (or the restrictor/compressor housing attachment), the compressor housing (or the housing/flange attachment) and the turbine housing (or the housing/flange attachment) (see FIA drawing 254-4). The exhaust gases from the waste-gate must exit into the vehicle's exhaust system and must not be recycled in anyway. Furthermore, there must be no connection between the intake and exhaust systems. Water injection is prohibited. Spraying of the intercooler is prohibited. Supercharged cars must not be equipped with any device which allows the boost pressure, or the electronic management system controlling the boost pressure, to be adjusted by the driver while the car is in motion (except the throttle pedal). Ceramic components, variable diameter inlets and adjustable internal vanes on turbochargers are forbidden.

k. Ceramic, Titanium or magnesium engine parts are not permitted.

l. Composite materials may only be used in non-stressed parts.

m. Flywheels are unrestricted.

#### **2. Transmission**

a. Clutch assembly is unrestricted.

b. Gearbox must be standard but internals are unrestricted. The interior of the gearbox may be modified. The material of the joints of the gearbox linkage is free but not the method of actuation or shift-pattern.

c. Differential and final drive must be standard but internals are unrestricted, provided they can be fitted in the production housing which may be modified internally.

d. Gearboxes and final drive housings from different models of the same production car may be fitted.

e. Driveshafts and propshafts are unrestricted.

#### **3. Steering & Suspension**

a. The reinforcing of the suspension and its anchorage points by the addition of material is allowed.

b. Springs are unrestricted.

c. Shock absorbers/dampers/McPherson Struts: Unrestricted, provided that their number, their type (telescopic, arm, etc.), their working principle (hydraulic, friction, mixed, etc.), and their attachment points remain unchanged.

d. McPherson strut top mounts are unrestricted.

e. Rubber/plastic suspension joints/bushes may be replaced with non-production bushes or uniball joints.

f. Standard suspension components may be modified and reinforced.

#### **4. Wheels – Unrestricted except for:**

a. Maximum size: Class 3 – 7' x 17". Classes 4 & 5 - 8" x 18".

b. Must be made of aluminium or steel.

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### 5. Braking system – unrestricted except for:

- a. The operating method and the design of the system are free except there must be a double circuit operated by the same pedal which shall normally control all the wheels. In case of a leakage at any point of the brake system pipes or of any kind of failure in the brake transmission system, the pedal shall still control at least two wheels.
- b. The brake discs must be made from ferrous material.
- c. A handbrake is mandatory and it must be efficient and simultaneously control the two front wheels or the two rear wheels.

### 6. Bodywork/Chassis

- a. All bodywork must be standard.
- b. Reinforcement plates and bars may welded or bolted to the chassis/bodyshell.
- c. Composite parts may be replaced with replicas made from different composites.
- d. Redundant and superfluous braketry may be cut out of the bodyshell.
- e. Inner steel panels of doors, bonnets and bootlids may be removed as long as the function is not affected and the modification cannot be seen.

### 4. BimmaCup cars must compete in their series specification.

### 5. Classic For normally-aspirated pre-1990 production cars homologated in FIA Groups 1, 2, 3, 4, N and A with the same additional allowances as Classes 3, 4 and 5, as well as:

- a. All parts used and modifications made to the cars must have been available / possible prior to 1990.
- b. Inlet and exhaust manifolds are unrestricted.
- c. Alternate production cylinder heads may be used.
- d. Engines, gearboxes and axles may be from any production car of the period but if the engine is changed, the car must weigh the same as the donor car.

