

# NI Sevens Racing Club [www.nisevensracing.co.uk](http://www.nisevensracing.co.uk)

## Kirkistown Race Circuit

Sporting & Technical Regulations as at 19.10.2009

**These technical regulations are those which are submitted to the 500 Motor Club**

### **1: TECHNICAL REGULATIONS**

**1.1: 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 do it, you should work on the principle that you cannot.

**1.2: GENERAL DESCRIPTION:** The NI Sevens Racing is for Competitors participating in two-seater (not tandem) seven style cars powered by a series-production four-stroke motorcycle engine as detailed in 1.7. Cars will run in a single class –  
Front-engined, rear-wheel drive 'production' kit cars using the carburetor or fuel injected standard motorcycle engine up to 929cc.

**1.3: SAFETY REQUIREMENTS:** All cars must comply with the technical regulations listed in the current MSA Year Book section E and J, and with the minimum safety requirements listed in section Q. Extinguishers must comply with MSA regulation J.20.14.7. Seat belts must be to FIA standards in accordance with J.20.14.2. Full roll cage must be fitted to the driver and passenger compartment complying with MSA regulation CC2.

### **1.4: GENERAL TECHNICAL REQUIREMENTS & EXCEPTIONS:**

All cars must comply with the requirements of sections E.12 and J.20 of the current MSA Yearbook. All vehicles must be of sound construction and mechanical condition and be well maintained.

**STANDARD:** The word 'standard' used within these technical regulations as a description of components is to be interpreted as:- 'The specified component from the manufacturers parts list for the model/engine shown on the entry form or registration form. No modifications permitted beyond the repair or adjustment processes specified by the manufacturer. Checking will be by comparison to spare parts supplied by the manufactures official agent or by any other means'.

**1.5: CHASSIS:** Chassis must be constructed of a tubular or box section steel spaceframe.

### **1.6: BODYWORK:**

Cars must have the appearance of a seven style car. Cars with front wheels that are covered by the vehicles main bodywork are prohibited. Only cars with cycle or swept wings covering the front wheels are permitted. Maximum overhang of front bodywork from front wheel axis is 850 mm. Maximum overhang of rear bodywork from rear wheel axis is 850 mm. Aerofoils are prohibited. The cockpit area must be enclosed on both sides, floor and bulkheads front and rear. The bodywork must be standard for the model; it may not have any aerofoils, spoilers, airdams, gurney flaps, dive plates, side pods or similar aerodynamic aids. "Side pods" are permitted as long as they do not protrude 60mm out past the standard plan view of the car and must not carry on backwards past the frontline edge of the scuttle. Rear axle four link bars may be covered at side of cockpit. 'Spats' may be fitted in order to comply with MSA regulation E.12.2.7 but they must not widen the standard bodywork in plan view. Photos of the manufacturers' standard car taken from front quarter and rear quarter view plus a statement of the maximum overall length and width of the manufacturer's standard car must be provided with the racing registration form. Bodywork must not differ from the bodywork as pictured except for the addition of a bulge in the bonnet where required to cover the engine air filter and holes as permitted by 1.6.1.3.

#### **1. Modifications Permitted:**

**1. General:** The cockpit seen in plan view must be symmetrical about the longitudinal axis of the car. The dimensions of the passenger seat space, elbow space, foot and leg room in terms of length, width and height must be at least 75% of that provided for the driver; only a fire extinguisher, a battery and any rollbar bracing may impinge upon the passenger space, no Fuels tank or any other items are permitted to be fitted in the passenger space, all fuel tanks must be fitted behind the rear passenger compartment bulkhead behind the drivers seat. Tandem seating is not permitted. Cockpit opening must measure at least 32" wide x 28" deep. The centreline of the driver's seat must be at least 10" from the longitudinal centreline of the car. The bulkhead in front of the rear axle shall be a solid panel that, at all heights between the chassis floor and the top of the driver's backrest, shall form a continuous horizontal straight line at 90° to the longitudinal centreline of the car across the width of the driver/passenger compartment. No part of the driver's seat may be behind this bulkhead. Cables, harnesses, pipes, linkages and (in front engined cars) the transmission/propshaft tunnel may pass through this bulkhead, but all holes into the driver/passenger compartment must be sealed with a fireproof sealant.

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**2. Interior:** It is permissible to remove interior trim and passenger seat.

### **3. Exterior:**

**ALL VEHICLES:** The engine and transmission must be fully enclosed. It is permitted for the air exit from a front-mounted radiator to exhaust through the top surface of the bodywork without any covering but the ducting between the bodywork and the radiator must ensure that the radiator hoses and piping are fully shielded from this ducting. Holes in the rear panel of the manufacturer's standard bodywork must not exceed a total area of 450 cm<sup>2</sup>.

Air filters may protrude through the bonnet without the need for any cover, any other holes in the upper surface of the bodywork forward of the steering wheel plus any holes in the side surfaces of the bodywork forward of the steering wheel above a longitudinal line joining the top of the front and rear wheel rims ("Engine Cover Holes"), must be covered with solid bodywork having only a forward facing opening, forward facing louvers or with a metallic gauze with a maximum hole size of 1mm; holes solely for the exhaust system do not require any cover/gauze but must be a reasonably close fit. The total area of non forward facing Engine Cover Holes (excluding properly ducted radiator exhausts as described in this section) must not exceed 400 cm<sup>2</sup>.

**All vehicles** must be fitted with a windscreen or an aeroscreen of minimum vertical height, measured at its attachment to the bodywork, of 75mm and a minimum width of 250mm. The passenger space may not be covered by any removable tonneau of soft flexible material or any other material. Any car fitted with a softtop or hardtop will be considered to be a closed car and must be fitted with a full width and height windscreen and rear screen.

**4. Silhouette:** The car must have the appearance of the standard seven style car it is based on. No side screens or half doors may be fitted to either side of the driver or passenger compartments.

**5. Ground Clearance:** Under no circumstance can any part of the bodywork, or of the suspended part of the car with the exception of the exhaust system, sump, sumpguard or any nut/bolt protrusion be below a horizontal plane passing 70mm (50mm for exhaust systems) above the ground, the car being in normal racing trim with the driver aboard. A gauge of 70mm or 50mm may be used by Scrutineers before or after races or practice to check the ground clearance. There is no minus tolerance to these measurements.

### **2. Modifications Prohibited:**

**1. General:** Any in contravention of 1.6.1.

**2. Interior:** It is not permitted to mount the fuel tank/s within the driver/passenger space.

**3. Exterior:** No aerofoils are permitted. The sides of any rear undertray or boot floor may not extend downwards beyond the bottom of their junction with that undertray or boot floor. Any rear undertray or boot floor must be horizontal within 10mm when measured transversely at 90° to the longitudinal axis of the car. Front wheels must only be covered by cycle wings and not enclosed within the main body.

**4. Silhouette:**

**5. Ground Clearance:** Side skirts or bridging devices are not permitted.

### **1.7: ENGINE:**

Any standard motorcycle engine up to 929cc, to which no modifications may be made. The standard water pump and drive must be retained; no auxiliary water pumps are permitted.

**ALL CLASSES:** The lubrication system is free and may have the oil pick ups and drain holes modified to suit the installation. Modified sumps and pick-up pipes are permitted. Oil coolers are permitted provided they are within the overall periphery of the vehicle and are used on the standard motorcycle which the engine came from.

**1. Modifications Permitted:** Only those permitted in 1.7.

**2. Modifications Prohibited:** Any other than those permitted in 1.7.

**3. Location Oil Cooler:** Front only.

**4. Water cooling:** Any system may be used for water cooling provided radiators are within the periphery of the vehicle. Oil hose connectors must be either swaged fittings, 'Aeroquip' – type compression fittings or good-quality high-pressure fittings. (The use of hose-clips on oil pipes is prohibited due to the extreme pressures developed by bike engines.)

**5. Induction Systems:** As per 1.7. Air filtration system is free.

The induction system and carburetors/fuel injection must be standard for the engine, though jetting is free as is air filters but injectors must remain standard in size and quantity. Air boxes can be used if necessary.

**6. Exhaust systems:** Exhaust systems including manifold are free but must comply with MSA noise restrictions as per MSA yearbook E.12.16.6 and 12.17.

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### **7. Ignition systems:**

All Classes : The standard ECU's revlimiter must remain in operation with standard manufacturers stated settings, and be the only non-mechanical means of controlling engine speed (excepting functions of the standard ECU for the engine). Ignition-cutting systems other than the standard rev-limiter are not permitted.

The main control of engine management must be made easily accessible for scrutineering purposes. The use of approved 'piggy-back' devices for fuel injection engines is allowed in conjunction with the standard ECU to modify fuelling only (and not ignition) and is

permitted provided as long as it does not contravene the remainder of

1.7.7. Approved piggy-back devices for 2010 are:

- Dynojet PowerCommander PCII, PCIII, PCIIIr, PCIIIusb

- Techlusion TFI

The standard ignition system/map must be retained and no modification to timing is permitted (including modification to sensors, pickups, trigger wheels, maps etc).

**8. Fuel delivery systems:** Fuel pump and fuel lines are free, subject to MSA regulations.

### **1.8: SUSPENSIONS:**

**1. Permitted modifications:**

**2. Prohibited modifications:** Active suspension is prohibited. Only single adjustable shocks are permitted. All other modifications are permitted.

**3. Wheelbase/track:**

All classes must remain as per manufacturers specifications. Rear live axles must have equal length half shafts fitted. Independent and live rear axle cars must have a maximum track width including wheels and tyres of 1850mm.

### **1.9: TRANSMISSIONS:**

The gearbox must be standard to the engine and have a maximum of 6 forward gears.

**1. Permitted modifications:** Drive may be by propshaft only. Gear position electronic sensor: The gear position sensor to the ECU must be permanently disabled or permanently enabled; it is not permissible for it to be switchable.

Clutch plates and springs are free. Clutch operation may be hydraulic or mechanical but must be under direct control of the driver with no electrically or electronically controlled assistance.

**2. Prohibited modifications:** Gear selection, clutch and throttle operation must be purely mechanical and solely under direct control of the driver. The gear linkage and clutch system must be purely mechanical (hydraulic clutch systems are permitted). No electrical connections, switches or sensors may operate on any part of the clutch or gear controls or linkages. Four-wheel drive is not permitted. Electronic traction control is not permitted.

**3. Transmissions & Drive ratios:** Gearbox ratios and all internals must remain as standard. Rear axle final drive ratio is free. Limited slip may be fitted. A reverse gear is not mandatory.

### **1.10: ELECTRICS**

**1. Exterior Lighting:** Only head lights with lens forward facing (@5.75" min dia or equivalent surface area if not circular, (minimum dip beam.) Rear brake lights must be fitted and functioning

**2. Rear Warning Light:** An LED rear fog light to EU regulation 7, an FIA homologated LED rear warning light, or an LED stop light to EU regulation 38 is mandatory and must be mounted directly to the rear or the underside of the rear roll hoop, within 10cms of the centreline of the vehicle. Any manufacturer fitted rear fog light must not be switched on unless it complies fully with this regulation.

**3. Batteries:** A battery and starter motor capable of repetitive starts must be fitted and operable by the driver whilst normally seated.

**4. Charging system:** A fully working alternator/generator must be fitted and electrically connected so that the standard battery charging function is providing a charge to the onboard battery. A charge indicator light must be fitted functioning to indicate when the alternator/generator is failing to provide a charge for the onboard battery.

**5. Transponder:** A lap timing transponder compatible with the timing system at Kirkistown must be fitted.

### **1.11: BRAKES**

**1. Permitted Modifications:** Free, but carbon fibre discs are not permitted.

**2. Prohibited Modifications:** ABS systems are prohibited. An hydraulically-operated handbrake is not permitted..

### **1.12: WHEELS / STEERING**

**1. Permitted Options:**

**2. Prohibited Options.** Four wheel steering is not permitted.

**3. Construction & Materials:**

**4. Dimensions:**

Wheels: Maximum wheel width is 8" .

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### **1.13: TYRES**

**1. Specifications:** The control tyre is the Toyo R888 - gg compound only, sg or any other future compound is not permitted. Maximum tyre width/size is 205/60/13",14" or 15".

**2. Nominated Manufacturers:** TOYO.

**3. Suppliers:** Tyres are only available from the series sponsor PM Services (NI) Ltd at a discounted price. – 028 90836186 or Mobile 07710 804469 quote NI Se7ens Racing.

Tyre softeners and warmers are prohibited. Tyres may only be filled with natural air, no other gases or mixtures may be used.

**1.14: VEHICLE WEIGHT:** Minimum weight including driver is 560kgs. Any additional weight ballast must be bolted securely to the passenger floor in accordance with MSA regulations.

### **1.15: FUEL TANK / FUEL**

**1. Types:** Fuel tanks are free but safety tanks are recommended. A non-return valve must be incorporated in the vent system.

**2. Locations:** Position free subject to MSA regulation J. 20.1.1. but must not be within passenger compartment and must be behind drivers rear bulkhead.

**3. Fuel:** Only petrol as defined in Section P of the MSA Yearbook for the current year may be used. The use of power boosting additives by competitors in any fuel is prohibited. At the end of practice and race fuel from the tank of the competing car must be available to the scrutineers for analysis. Compliance with minimum weight for the car will be taken before the fuel is removed.

**1.16: SILENCING:** All vehicles must be silenced to current MSA regulations E.12.16.6 and 12.17.

### **1.17: NUMBERS & CHAMPIONSHIP DECALS**

**1. Positions:** Race numbers must be displayed on each side of the vehicle alongside the cockpit/driver and as far forward on the front of the vehicle as possible and to the rear. NI Se7ens decals must be affixed prominently near all number backgrounds. Championship Sponsor's decals (where applicable) must be affixed in or near the positions detailed on the diagram. NI Se7ens and Championship Sponsor's decals must take preference to any other decals. Failure to comply will render the vehicle and driver ineligible to race.

**2. Suppliers:** Sponsors and Club decals will be available at the first championship race in which the vehicle is entered.

### **1.18 CONTRAVENING OF RULES AND REGULATIONS**

Any competitor found in breach of the rules and regulations will be excluded from that years championship and all remaining rounds. All championship points awarded will be cancelled/removed and the competitor will be removed from the results table and listed as banned on any correspondence/results issued in any media.

### **APPENDICES:**

Championship Decals must be displayed where indicated on both sides of all cars and one across the rear vertical body panel. Cars without these decals in the correct position will either not be permitted to race or will be excluded from results.

Race organizing club is NI Se7ens Racing Club in association with 500 MRCI and the contact is:

500 MRCI office, Kirkistown Race Circuit, Rubane Road, Cloughy, Kircubbin, Co Down. Tel; 028 42771325 Fax; 028 42771894. Competition Secretary: Richard Young.

**1.18: COMPLIANCE PERIOD:** The above rules will be in force for 2010 and 2011 racing seasons. All competitors must comply with the rules and regulations of the club. Rules may be changed with the agreement of the Club Stewards. The Club Stewards reserve the right to add or subtract events from the Race Championship as necessary.

Rules can be found at [www.nisevensracing.co.uk](http://www.nisevensracing.co.uk) and [www.nise7ens.net](http://www.nise7ens.net)