

# OPEN CLUBMAN RALLYCROSS CHAMPIONSHIP



## 2022 TECHNICAL REGULATIONS



## **4 TECHNICAL REGULATIONS**

### **4.1 INTRODUCTION**

**4.1.1** The following Technical Regulations are set out in accordance with the Motorsport Ireland 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.

**4.1.2** It is the competitor's responsibility to ensure that their car complies with these Technical Regulations, as published by the Organisers, throughout official practice, qualifying, and races at all times.

### **4.2 GENERAL DESCRIPTION**

**4.2.1** The Open Clubmans Rallycross Championship is for Competitors participating in two wheel drive vehicles up to 2000cc normally aspirated or up to 1600cc forced induction (supercharged or turbo, not both) complying with the following regulations.

#### **4.2.2 Examination of Vehicles**

**4.2.2.1** The organisers (in addition to any other powers they may have under these Regulations) reserve the right before or after any race in the Championship to designate any one or more of the competing cars for special eligibility scrutineering. Upon such election being made, the competitor shall immediately place the car under the control of the Organisers and be deemed to have permitted all such scrutineering, examination and testing as the organisers may responsibly require to undertake. The organisers have the right to:

- a) Examine the car at the circuit for such period as they may reasonably require and take fuel and/or other samples and/or
- b) Retain the car for detailed examination at premises chosen by the organisers. If the organisers elect to retain the car, they shall make it available for collection by the competitor at least seven days prior to the qualification session for the next race in the Championship unless the car is found to be in breach of these regulations and/or
- c) Seal the car and its components in such a manner as they may choose and require the competitor at their own expense to present the car at any other premises chosen by the Organisers for detailed examination within a specified period and/or remove the car by transporter at no expense to the competitor to an appointed location. The competitor will be advised in writing of the time, date and location of the subsequent testing or eligibility examination.

**4.2.2.2** The stripping of the engine or any required component will be undertaken by the competitor and/or mechanic/technician nominated by the competitor at the premises designated and overseen by a Motorsport Ireland licenced Scrutineer.

**4.2.2.3** Competitors will be personally and solely responsible for ensuring that their cars comply with their registration details and with these regulations for each event at which they are entered. Failure to comply in either respect will be a breach of these regulations. Queries concerning eligibility should be referred in writing to the Organisers or the Eligibility Scrutineer at least seven days prior to an event entered, to permit a written ruling in advance of any meeting at which it is intended to compete.

**4.2.3** All cars must be presented in a good condition, clean and tidy with any damage from a previous round removed or repaired. Any car which, in the opinion of the Chief Scrutineer, does not meet with these requirements will be excluded from the event.

### **4.3 SAFETY REQUIREMENTS**

**4.3.1** All cars must comply with these Technical Regulations, in addition to the safety requirements as listed in MI GCR Appendix 2 of the current MI Yearbook.

- 4.3.2** A Multi Point roll cage in compliance with FIA Appendix J 253 and in accordance with MI GCR Appendix 2 Section 16 is mandatory. The fitment of the cage to the chassis of the car must only contact the chassis at the mounting points which must be within the passenger compartment. No additional welding, mounting points or bars may be used. No chassis modification or stiffening is permitted except that derived from the fitting of the roll cage. Seam welding or the addition of spot welds to the shell is prohibited.
- 4.3.3** It is mandatory to use a handheld or plumbed in fire extinguisher in accordance with MI Regulation Appendix 2 Section 6.4.2.
- 4.3.4** A minimum five-point safety harness in accordance with MI Regulations Appendix 2 Section 7.2 must be fitted
- 4.3.5** An FIA Homologated Driver's seat in good condition must be used and fitted in accordance with MI Regulation Appendix 2 Section 20.2.
- 4.3.6** Safety helmet must be to the standard specified in MI GRC Appendix 2 Section 17 and must incorporate an FIA approved FHR device fitted in accordance with FIA Regulations.
- 4.3.7** Drivers must wear overalls as well as gloves, long underwear, a balaclava, socks and shoes/boots homologated to the FIA 8856-2018 standard, as detailed in FIA Appendix L Chapter III Article 2. See MI GRC Appendix 2 Section 23.
- 4.3.8** Vehicles must be equipped with an externally and internally operated circuit breaker as per MI GRC Appendix 2 Section 22 of the current MI yearbook. The circuit breaker must be operable when the driver is normally seated irrespective of whether a safety harness is worn or not.
- 4.3.10** The car must be fitted with towing points front and rear. It is only permissible to use a strap to connect to the existing towing eye mounting point on the cars to avoid damage in a contact situation. Where a solid bracket is used, the towing eye must not protrude beyond the bodywork of the vehicle. See MI GRC Appendix 2 Section 21.

#### **4.4 GENERAL TECHNICAL REQUIREMENTS & EXCEPTIONS**

- 4.4.1** All vehicles must be of sound construction and mechanical condition and be well maintained.
- 4.4.2** Standard – is a part, the specification, features, location, and method of operation of a part are as provided when new by the motor manufacturer for the model and date of car. No modifications permitted beyond the repair or adjustment processes specified by the manufacturer. Checking will be by comparison to parts supplied by the manufacturer, or any of its nominated dealers or suppliers.
- 4.4.3** All vehicles must have a Competition Car Log Book in accordance with MI GRC Appendix 2 Section 27.
- 4.4.4** The competitor must provide the facility to seal (3mm holes cross drilled in two adjacent bolts/studs/castings and a tell-tale wire installed) so that no stripping can be done without removing the seal. The following items must have the facility to be sealed so they cannot be removed and/or dismantled without breaking the seal(s).
- Cylinder head
  - Camshaft
  - Sump
  - Inlet manifold
  - Exhaust manifold
  - Clutch housing
  - Gearbox
  - Differential

#### **4.5 CHASSIS**

**4.5.1** Chassis must be as per manufacturer's dimensions and design. No chassis stiffening is permitted except for that which is derived from the fitting of the roll cage as per 4.3.2. No modifications or additions may be made to the roll cage and seam welding of the shell is prohibited.

**4.5.2** All cars must have the manufacturer's chassis number attached.

**4.5.3** No space frame cars allowed

**4.5.4** No chassis modification allowed.

## **4.6 BODYWORK**

**4.6.1** The exterior of the car **MUST** remain as standard, with the exception of bonnet pins or similar retaining devices, which must be fitted. Any replacement body panels must be of original shape, material and thickness. It is not permitted to reinforce the bumpers or their mountings.

**4.6.2** A laminated windscreen must be fitted; all other windows must be replaced by polycarbonate or lexan with a minimum thickness of 4mm. Consideration must be given to driver's compartment ventilation and for this purpose it is permitted to cut a maximum of four, 50mm holes in each of the rear side and tailgate windows. A vent hole may be added to the driver's door window large enough to accept the driver's arm then window webbing must be fitted.

**4.6.3** The interior of the car must have the roof lining, carpets and all the seats, apart from the driver's removed. It is also required that all audio equipment, spare wheel, tools and standard seat belt be removed.

**4.6.4** Front door panels and rear side panels must be removed, and aluminium sheeting installed in their place in accordance with MI GCR Appendix 2 Section 14.3. No lightening or removal of materials from the door is allowed. A method of opening and closing the doors from inside the car must be retained. Composite doors are not allowed.

**4.6.5** The original dashboard **MUST** be retained, additional instruments may be fitted but all standard instruments and switches must be retained in their original positions and remain operational.

**4.6.6** The heater, heater motor and all associated pipe work, ducting and vents must be retained and fully operational.

**4.6.7** It is permitted to fit guards to engine sump and petrol tank.

**4.6.8** Vehicle must have an operative windscreen wiper and washer system

**4.6.9** It must be fitted with at least one interior 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

**4.6.10** All cars must be equipped with two outside mirrors (one on the right and one on the left) at all times. These rear-view mirrors may be as standard.

**4.6.11** Glass sunroofs must be replaced by a panel of steel and be at least the same thickness as the remainder of the roof and be firmly secured in the closed position.

**4.6.12** The passenger compartment must not contain any fuel, oil or hydraulic pumps or filters. (This includes power steering systems). Oil reservoirs, if fitted in a two compartment vehicle, must be rearward of the rear axle and enclosed in their own boxed-in section.

## **4.7 ENGINE**

- 4.7.1** Engines must be up to 2000cc normally aspirated or up to 1600cc forced induction. There is rebore allowance of 0.50mm over standard. No blueprinting, polishing, balancing or lightening of components is allowed.
- 4.7.2** Position, mounting method and mounts must be as standard.
- 4.7.3** Bore and stroke must remain standard except as permitted in 4.7.1. It is permitted to replace valves and valve guides with standard or standard pattern parts only. No skimming of the cylinder block is permitted.
- 4.7.4** Pistons, conrods and crankshaft must remain as standard and unmodified.
- 4.7.5** It is prohibited to modify the ports or the seats in any way other than to lap in the valves. Maximum of 1mm may be skimmed from the surface of the cylinder head.
- 4.7.6 Camshaft**  
Must remain as standard and unmodified. It is not permitted to regrind or reprofiled the camshaft. Camshaft timing and gears must remain as standard.
- 4.7.7 Oil/Water cooling**  
The water radiator must be standard and in the original location. Oil coolers are not permitted unless fitted as standard . Internal baffles may be fitted to the standard sump and it is permitted to modify the oil pick up pipe.
- 4.7.8 Induction System**  
The standard induction system must be retained in its entirety and must remain unmodified. It is permitted to replace the air filter with a non-standard element fitted inside original casing or you may remove the airbox and fit a cone filter to the original piping/housing. It is not permitted to add any heat reflective covering to either the outside or the inside of any part of the system. Additional piping of cold air is prohibited. The rocker cover may be vented into a catch tank.
- 4.7.9 Ignition system**  
The standard ECU must be retained and may be remapped. The original coil must be retained. Spark plugs and ignition leads are free.
- 4.8 SUSPENSION**
- 4.8.1** Only 2-way adjustable shocks are permitted but must be the same shape and design as the original unit.
- 4.8.2** The springs must be the same shape and diameter as the original, but the poundage is free.
- 4.8.3** No adjustable wishbones or adjustable top shock mounts are allowed.
- 4.8.4** Upgrade of top shock mount (front and rear) is allowed but cannot be adjustable. The strut tower cannot be modified in any way.
- 4.8.5** An aftermarket anti-roll bar may be fitted but the silhouette must be the same as the standard roll bar and must fit in its original mounting brackets. It is not permitted to fit rose jointed or up-rated link bars. You may completely remove one link if you want to leave the anti-roll bar inoperable.
- 4.8.6** Standard chassis bump stops must be fitted in original location.
- 4.8.7** Standard suspension pick-up points must be retained. It is not permitted to fit offset or adjustable mounts. Modification of standard mounts is prohibited.
- 4.8.8** It is permitted to alter the ride height of the vehicle, but it must be able to be driven over a 100 mm block placed at any point under the car.

## **4.9 TRANSMISSIONS**

- 4.9.1** All cars must have a standard H pattern gearbox.
- 4.9.2** Sequential, dogbox or DSG gearboxes are not permitted.
- 4.9.3** Gear Kit (same manufacturer as the vehicle) lowering of ratio is allowed but must remain H pattern in standard gearbox casing. No motorsport gear kits are allowed. Written evidence of ratios permitted will need to be provided by the competitor.
- 4.9.4** The standard clutch pressure plate and disc must be retained.
- 4.9.5** The use of limited slip differentials is free.
- 4.9.6** Traction control of any type is prohibited.
- 4.9.7** Front to rear wheel drive conversions are prohibited.

## **4.10 ELECTRICS**

- 4.10.1** All lights and fittings must either be removed or taped up.
- 4.10.2** All cars must be equipped with two rear lights of the anti-crash type as used in fog with the minimum of 15 watts each and illuminating an area of 60 sq. cm. These must work with or replace the car brake light system at all times and must be between 115cm and 150 cm above the ground and must be clearly visible from behind.
- 4.10.3** One FIA specification high intensity LED rear light must be fitted in the centre line of the rear screen. It must be clearly visible, fitted at the bottom of the screen outside the car. See MI GRC Appendix 2 Section 2.2
- 4.10.4** Battery must be in original location, but type is free. It must be capable of repetitively starting the engine without the use of a slave battery.
- 4.10.5** The standard alternator must be fitted, connected and providing a charge when the engine is running.
- 4.10.6** The complete original wiring loom must be retained and used.

## **4.11 BRAKES**

- 4.11.1** A Dual Circuit Braking System is compulsory for all cars.
- 4.11.2** The brake disc/drums must be standard pattern as original manufacturer and may be drilled or grooved.
- 4.11.3** Brake callipers must be original and unmodified.
- 4.11.4** The brake pad/shoe make and material are free.
- 4.11.5** The handbrake must be fitted and operational. Hydraulic type handbrake is prohibited.
- 4.11.6** The standard brake bias valve must be retained and operational and not replaced by any pressure-limiting device.
- 4.11.7** It is permitted to fit non-standard linings and fit braided brake hoses. Brake ducting may be fitted once it is connected to openings in the lower part of the front bumper.

4.11.8 ABS must be electronically disabled where fitted.

#### 4.12 WHEELS/STEERING

4.12.1 Standard size alloy or steel wheels must be used, with a standard offset fitted and supplied by the manufacturer.

4.12.2 The steering wheel may be replaced; this is mandatory where the car has an airbag as standard to remove the airbag. All airbags must be removed.

4.12.3 Steering lock must be removed. Manufacturer's power steering may be added or removed.

#### 4.13 TYRES

4.13.1 No slick tyres are permitted. Tyre cutting is prohibited.

#### 4.14 WEIGHTS

4.14.1 The minimum weight of the car including driver in full race apparel must be 980kg at all times

#### 4.15 FUEL TANK/FUEL

4.15.1 Only standard pump fuel as defined in MI GRC Appendix 2 Section 28.2 may be used. Race fuel is not permitted.

4.15.2 Fuel additives are permitted.

4.15.3 The fuel tank must remain in the original position.

4.15.4 Fuel lines are free, but consideration should be given to the route taken and materials used to minimize any likely damage and reduce the danger of fire. It must be possible to take a fuel sample. For fuel injected cars the facility must be a dry break fuel sampling coupling, approved by the FIA. For all others an appropriate fitting to allow fuel sampling must be present.

4.15.5 Fuel filter is free.

4.15.6 Standard fuel pump must be used. The standard fuel rail, injectors and unmodified fuel pressure regulator must be used.

#### 4.16 SILENCING

4.16.1 Normally aspirated and supercharged cars may fit an aftermarket manifold. For turbo charged cars the standard exhaust manifold and turbo must be retained and unmodified except for the removal of catalytic converters.

4.16.2 Exhaust system must exit the rear of the car and fitted at all times.

4.16.3 The remainder of the system is free and must be silenced to meet the required noise limit. See 4.16.5.

4.16.4 It is not permitted to wrap any part of the exhaust system in any heat resistant covering.

4.16.5 For all cars a noise limit of 105dB is imposed, measured with a noise pressure meter regulated at Position A and SLOW, placed at an angle of 45 degrees to and 50 cm distance from the exhaust outlet, with the car engine turning at 4,500rpm.