

JUNIOR 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 Junior Cup is open to normally aspirated cars of less than 1000cc that were on sale within the EU and Ford Fiesta Zetec vehicles conforming with the current published Technical Regulations for the Ford Fiesta Zetec Race Championship.

4.2.2 Cars will compete in class as follows:

Class A 1000CC normally aspirated 2WD cars

Class B Fiesta Zetec 1250cc cars which must conform at all times with the current published Technical Regulations for the Ford Fiesta Zetec Race Championship unless specifically permitted by these regulations.

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 FIA approved roll cage including side intrusion bars must be fitted as per MI GCR Appendix 2. This must not penetrate the front bulkhead and must not extend beyond the rear shock absorber mounting points. Protective padding fitted as per MI GCR Appendix 2 Section 16.2.

4.3.3 Fire extinguisher as per MI GCR Appendix 2 Section 6.1.2. A plumbed in fire extinguisher system is recommended. This must be capable of being operated by the driver when strapped into the driver's seat. In addition, the system must be capable of being triggered from an external point at the base of the windscreen by means of a pull cable, which must be clearly marked by an appropriate sticker.

4.3.4 A FIA approved safety harness in accordance with MI GCR Appendix 2 Section 7.3 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 The words "standard pattern" refers to components, which are interpreted as "a replacement part, which has the same shape and features as the original part and is manufactured from the same materials as the original component and offers no performance advantage."

4.4.4 All vehicles must have a Competition Car Log Book in accordance with MI GRC Appendix 2 Section 27.

4.4.5 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

4.4.6 The prime objective of these regulations is to facilitate equality of performance between different types of cars. The Organisers reserve the right to adjust these regulations to equalize power to weight ratios should any one type of car become dominant.

4.5 CHASSIS

4.5.1 No chassis stiffening is permitted except for that which is derived from the fitting of the roll cage as per 4.3.2.

4.5.2 No modifications or additions may be made to the roll cage and seam welding of the shell is prohibited.

4.6 BODYWORK

4.6.1 A laminated windscreen must be fitted; all other windows must be replaced by polycarbonate or lexan with a minimum thickness of 4mm.

4.6.2 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 but window webbing must be fitted.

4.6.3 Glass sunroofs must be replaced as per MI GCR Appendix 2 Section 25.

4.6.4 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.

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

4.6.6 Additional holes for cooling etc. may not be made to the bodywork.

4.6.7 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.

4.6.8 Front door panels and rear side panels must be removed, and aluminium sheeting installed in their place. A method of opening and closing the doors from inside the car must be retained.

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 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.
- 4.6.12 The steering wheel may be replaced. This is mandatory where the car has an airbag fitted as standard.
- 4.6.13 The heater, heater motor and all associated pipe work, ducting and vents must be retained and fully operational.

4.7 ENGINE

- 4.7.1 Engines must be less than 1000cc capacity. There is rebore allowance of 0.20mm over standard. Position, mounting method and mounts must be as standard.
- 4.7.2 Bore and stroke must remain standard. It is permitted to replace valves, valve guides and valve seats with standard or standard pattern parts only.
- 4.7.3 Pistons, conrods and crankshaft must remain as standard and unmodified.
- 4.7.4 **Camshaft**
Must remain as standard and unmodified. It is not permitted to regrind or reprofile the camshaft. Camshaft timing must remain as standard.
- 4.7.5 **Oil/Water cooling**
The water radiator must be standard and in the original location. Oil coolers are not permitted. Internal baffles may be fitted to the standard sump and it is permitted to modify the oil pick up pipe.
- 4.7.6 **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. It is not permitted to add any heat reflective covering to either the outside or the inside of any part of the system.
- 4.7.7 **Exhaust system**
Standard exhaust manifold and front pipe must be retained and unmodified except for the removal of catalytic converters. Exhaust system must exit the rear of the car. The remainder of the system is free and must be silenced to meet required noise limit. It is not permitted to wrap any part of the exhaust system in any heat resistant covering.
- 4.7.8 **Ignition system**
ECUs must be in standard "tune" and for that particular engine. You may be asked to provide proof of this. Failure to do so will result in exclusion and forfeit of all championship points up to and including date of request. The original coil must be retained. Spark plugs and ignition leads are free.

4.8 SUSPENSION

- 4.8.1 **Front suspension**
Koni Sport shock absorbers must be used. Lowering springs are permitted, refer to rule 4.8.6. Standard bushes must be used.
- 4.8.2 **Rear suspension**
Koni Sport shock absorbers must be used. lowering springs are permitted, and where required it is permitted to adjust torsion bar, refer to rule 6.6. standard torsion bars must be used. Standard Bushes must be used.

4.8.3 Anti-roll bars

Standard anti-roll bars must be retained and properly connected. It is not permitted to fit rose jointed or up-rated link bars. The standard rubber mounting bushes must be retained.

4.8.4 Bump stops

Standard chassis bump stops must be fitted in original location.

4.8.5 Suspension mounts

Standard suspension pick up points **MUST** be retained; it is not permitted to fit offset or adjustable mounts. Modification of standard mounts is prohibited.

4.8.6 Ride Height

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 Gearbox

Standard gearbox and drive shafts must be retained.

4.9.2 Clutch

The standard clutch pressure plate and disc must be retained.

4.9.3 Gear ratios

Standard gear ratios and final drive ratios must be retained.

4.9.4 Differential

The use of limited slip, locked or torque biasing differentials are prohibited.

4.9.5 Traction control of any type is prohibited.

4.10 ELECTRICS

4.10.1 Battery

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.

4.10.2 Alternator

A standard alternator must be fitted and operational at all times. A charge indicator light must be fitted.

4.10.3 Lighting

Front headlights must be removed and replaced with covers of similar shapes. Fog lights must be removed. Two high level rear brake lights must be fitted inside the rear window. A rear LED warning light must also be fitted in the centre of the window near its upper edge and operate on an independent switch.

4.10.4 Wiring

The complete original wiring loom must be retained and used.

4.10.5 Data Logger

A black box data logger may be fitted to any vehicle at any time on any event for the purpose of assessing power output.

4.11 BRAKES

4.11.1 Brake Discs/Drums

The brake disc/drums must be standard pattern and must not be drilled or grooved.

4.11.2 Brake Callipers

Brake callipers must be original and unmodified.

4.11.3 Handbrake

The handbrake must be fitted and operational, a hydraulic type handbrake is prohibited.

4.11.4 The standard brake bias valve must be retained and operational and not replaced by any pressure-limiting device.

4.11.5 It is permitted to fit non-standard linings, deform or remove back plates and fit braided brake hoses. Brake ducting may be fitted once it is connected to openings in the lower part of the front bumper.

4.11.6 ABS must be removed or disabled where fitted.

4.12 WHEELS/STEERING

4.12.1 Standard alloy or steel wheels must be used, with a standard offset.

4.12.2 Steering lock must be removed.

4.12.3 Power steering may be added or removed.

4.13 TYRES

4.13.1 Tyres must be road legal (E-marked) and thread must not be scrubbed/machined in any way.

4.13.2 The following tyres are permitted for the Ford Fiesta Zetec class:

- (a) Yokohama Advan A050 185/60/R14 Art. Code F1902 or N3212, or
- (b) Toyo Proxes R888 185/60 R14

4.14 WEIGHTS

4.14.1 The following minimum weights excluding driver are set for individual makes and models of eligible cars. When a make / model is entered for which there is not a specified minimum weight, a weight will be calculated and published by a Championship Bulletin.

Nissan Micra	700kg
Mini	620kg
Suzuki Swift	650kg
Peugeot 106	730kg
Toyota Starlet	685kg

4.14.2 Vehicles must be made available to be weighed at any time during an event

4.15 FUEL TANK/FUEL

4.15.1 The standard fuel tank MUST be retained in the original position. It is not permitted to modify fuel tank in any way. Fuel lines are free and consideration should be given to the route taken and materials used to minimize any likely damage and reduce the danger of fire. Fuel filter is free.

4.15.2 Standard fuel pump MUST be used.

4.15.3 Only unleaded RON 95 type fuel may be used. All fuel must be of a type available on sale to the public at a retail forecourt. No additives of any type including upper cylinder lubricants are allowed.

4.16 SILENCING

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.